

VOLUME 20
NUMBER 6

ALL
STORIES
COMPLETE

AMAZING
STORIES

SEPTEMBER
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STORIES



**EARTH SLAVES
TO SPACE**

by RICHARD S. SHAVER

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The Darkspoor came to Earth and picked up a load of slaves—but Earth's other people never knew it!

THE COSMIC SISTERS (Novelet—15,000) by Leroy Yerxa . . . 54

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Women fall as trees, female counterparts of the legendary giant men, Paul Bunyan—and very lovely.

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The final showdown between the rival mutant humans who were born of the atom war; what would happen?

MORTON'S FORK (Novelet—16,200) by Jack & Dorothy de Courcy 116

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So there are no such things as demons? Of course not, if you're looking for harm and a fall!

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TABLE OF CONTENTS

SEPTEMBER 1946

VOLUME 20

NUMBER 6

All FEATURES Complete

THE OBSERVATORY	by The Editor	6
RADIUM SLEUTHS	by June Lurie	77
WHAT MAN CAN IMAGINE.....	by The Readers	142
THE "GHYT" MOTOR	by W. C. Hefferlin.....	142
BURN WATER FOR FUEL.....	by W. C. Hefferlin.....	144
CONCEPT COLLECTORS WANTED.....	by Roger P. Graham.....	145
FAMINE IN THE LAND.....	by John McCabe Moore..	147
ORIGIN OF A DIAMOND.....	by Roger P. Graham.....	148
EARTH'S MAGNETICS	by John McCabe Moore..	149
POWER!	by W. C. Hefferlin.....	150
CREATING CANCER	by G. A. Pollard, M.D.	151
STAR DUST	by John McCabe Moore ..	152
VOLCANICS	by John McCabe Moore ..	153
SCIENTIFIC MYSTERIES	by L. Taylor Hansen.....	154
CIRCLE-WINGED PLANE	by W. C. Hefferlin.....	157
THE FRAME CONCEPT	by Roger P. Graham.....	158
DISCUSSIONS	by The Readers.....	168

Front cover painting by Robert Gibson Jones illustrating a scene in "Earth Slaves To Space"

AMAZING
STORIES
★
SEPTEMBER
1946

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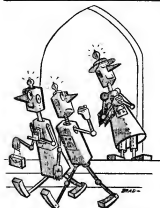
Volume 20
Number 6

The

OBSERVATORY

by the Editor

PERHAPS the most important thing to mention in our editorial for this month is those thousands of readers who have written us lengthy and startling letters concerning the Shaver Mystery. It is quite obvious that all of these letters **SHOULD** be answered; and it is equally obvious that hardly any of them **CAN** be answered. They amount to millions of words, and fill a brand new steel file to the brim. Just the task of keeping them properly filed and indexed is taxing our spare time. Therefore, we want to say that there is *only one answer*—if you've anything important to say, say it without the stipulation that your letter be answered—or that an answer indicating we are interested is necessary before further information will be divulged. We **ARE** interested. Every one of our readers is interested. **THEY** want this mystery to be solved or scotched one way or the other. We already know it can't be scotched; it is no hoax. But we've got to have proof. So far the proof is not sufficient to present anything concrete. We all know something strange is going on. It is happening to thousands of you.



"There's the new reactor. They say he's made of stainless steel!"

If you will describe it faithfully to us, the tabulated results will be presented in **AMAZING STORIES**, and your letters answered in that way—and if any concrete proof is forthcoming, it will be presented in concrete form. Just write—and don't expect an answer . . . and **DO** expect one if you've got anything at all provable; because we won't let you make a statement that seems provable without tracking it down to the last possible detail!

BEGINNING this month, we are presenting some "evidence" in the form of articles. Special for this issue is Roger P. Graham's initial article on "Frames" which is only a small part of his new theory. This is his acid test. If he has something, maybe you readers can prove it; or if he's all wet, maybe you can disprove it. You already know how he says he got it: he worked it out with "guidance" from some mysterious source. From the caves?

OTHER articles are those by W. C. Hefferdin. They are, he says, from Tibet by mental telepathy. From the caves? And are they "workable"? Again, here's something to sink your teeth into. Your editors have "proved" to their own satisfaction that there are many people in this country who "say" they are the recipients of unusual information from Tibet by mental telepathy means (including "image projection" ala the Shaver stories). We will present what we have permission to present. We can only publish what we have a legal right to, unfortunately, and we do not intend to break a confidence either.

REGARDING the stories in this issue, we have Richard S. Shaver's "Earth Slaves To Space" which is a sequel to "Cult Of The Witch Queen" and is a thrilling adventure story in accepted science fiction manner, besides being an integral part of the "Shaver Mystery." "The Cosmic Sisters" by the late Leroy Verxa is a typical Verxa story and it means real enjoyment as you all know. "Battle Of The Gods" is Rog Phillips' sequel to "Atom War" and "The Mutants" involving the same characters which have been so well received by you readers. "Morton's Fork" is another story by Jack and Dorothy de Courcy (behind whom is a tremendous story we haven't yet told you!) which has a hidden "punch" in it. Does it hit you?

—Rsp



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queen.
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wide-eyed stu-
dence and
two watchful
guardians of
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strip act.



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Tongatama.
Until this day
the eyes of sailor
Samish take on
a mischievous
gleam at the
mention
of Suzy.

"TALES
FOR
MALES"
CONTENTS
SUIT EVERY
MAN'S TASTE

The Love Kick—William Saroyan
My Views on Marriage—W. C. Fields
We Was So Good to Her—Frank Sullivan
What Every Young Wife Should Know—Jas. Thurber
Bundling: An Old Yankee Custom

What Goes on in Ladies Rest Rooms —George S. Chappell
I Learn Something About Sex—Coney Ford
Love Letters of Smith—H. C. Bunner

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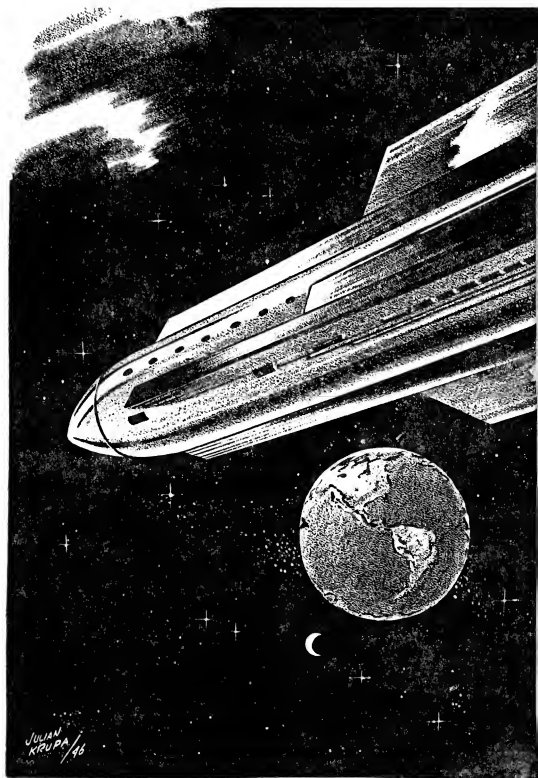
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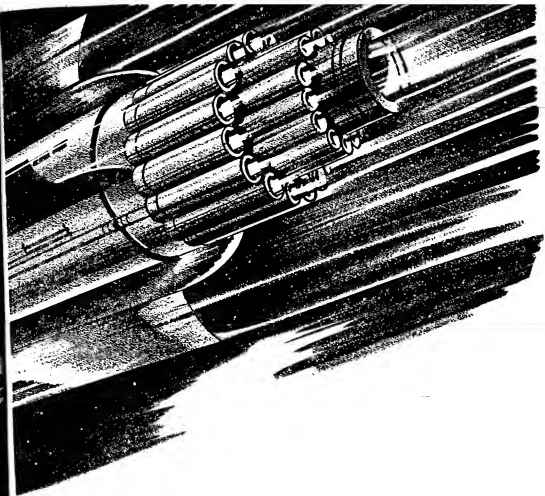
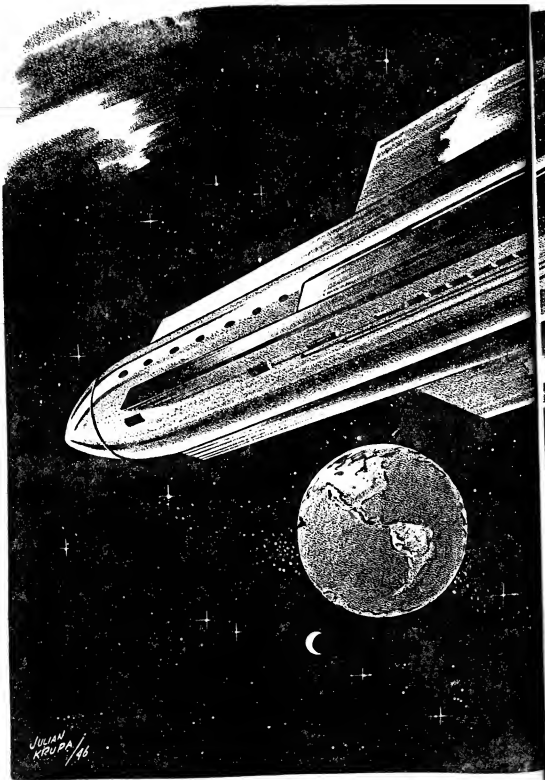
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The *Darkspear* hurtled out into space at incredible speed



The Darkspear hurtled out into space at incredible speed



Earth Slaves to Space

By RICHARD S. SHAVER

**Is it true that spaceships visit
the earth unsuspected and leave with
loads of humans for slavery on other planets?**

FOREWORD

THIS IS 1946. This story is not about the future or the past. It is about the present, the atomic era. Last year the first atomic bomb was dropped by the enlightened United States upon the unenlightened Japanese. Next year—well, a number of things may happen. Remember, these things

are happening today as described in this story—to people from New York, from Ashtabula, from Kansas. And, too, it happens to people from Tibet.

To believe this story, you must understand that the "Missing Persons Bureau" can be as much a mythical institution, and as useless in a practical way, as any bribed

policeman. And the "Missing Persons Bureau" is a much less numerous personnel than one might think till one learned it could be bribed with a very few dollars, considering—that they didn't want to die to be replaced by more tractable people. A person gets very tractable when an invisible ray starts burning his feet, and he knows if he mentions it to any one they will say—"Poor fellow, he's nuts."

Remember you didn't know much about the atomic bomb till it was actually dropped? There are other things you don't know anything about, and they are apt to drop on you any day! Some of those things dropped on me.

—Richard S. Shaver

CHAPTER I

THE *Darkspear's* bow-jets thundered mightily as she slowed to spiral about Earth. The spiral tightened, braking against the air, braking against gravity, and the thin stratosphere mists screamed madness . . .

Andy Miller rubbed the sleep out of his eyes, sprang to the ports, to look. They were swinging open at last! After so long closed against the deadly rays of the outer deep space. Andy wanted to know where he was, what was cooking? He didn't have the nerve to ask the big-shot, Ru-Non, who seemed the only one aboard who knew their destination or their business.

"North America," grunted Andy to himself. "Mu, they used to call it. I've seen the name on the ancient charts they run this thing by. The whole universe must have changed since those things were made. This ancient crate! If I had a pleasant enough life to worry about, I'd be plenty scared navigating at the speeds Ru-Non makes out of the old hulk," Andy stood watching the great continent spread wider, ever wider as the ship plunged down—down . . .

Soft, secret-sounding feet slid to a

stop behind him. Andy half turned, throwing up an arm toward the expected slash of a whip. Just habit, damn it! As the silken shimmer of blonde hair thrilled him, telling him it was Nan King, the female's overseer. He turned back to watch the great round of earth below. He grunted his acceptance of her, peering over his shoulder at the world, with a brief "Hello Nan." No use building himself for a heartbreak when some big-shot male of the Tirans took a fancy to Nan's lovely figure and soft mouth.

"Lo, Andy." Nan's voice was soft, too. Friendly, with a little something special in it for him. As he didn't say anything more, she elaborated—"So this is the dinky little planet our ancestors were shanghaied from a century ago? I've heard these people for the most part don't even know we exist. Is that true, Andy?"

"Yes, it's true, Nan! Even if you went down there in that city," Andy pointed to Cleveland slipping aft far below, "they wouldn't listen to you, wouldn't believe you if you stood on a corner and told everyone you saw—they would have you arrested for a crazy woman. I've been here before, Nan. I know how they are. They think because they didn't invent spaceships, that there aren't any. You couldn't make them believe in us at all, no matter how you tried. They just couldn't be told."

"Poor dupes!" Nan's voice was full of pity for the defenseless country below, full of good, innocent people who didn't know they were preyed on by Ru-Non and others like her.

"No, Nan, they don't know from nothing, and never will, the way things look. I'll wager we're landing here to do some lousy trick that'll set em back another century so they'll never find us out."

"Such innocence must be a kind of happy state, eh Andy? Thinking you have a right to do as you choose—even if it ain't true—would be a big relief for me."

"If I could give them a ship like this—prove it to them by showing them the ancient work, wake them up—Geez, what a man could do with a race of men as educated as those innocents are. Geez!"

"QUIT dreaming, Andy. Besides, what would Ru-Non do to you if she heard you?"

"I know it's hopeless, Nan, but a guy can't help dreaming, can he? Like I dream about you, nights, locked up in my cubbyhole. I know it can't be true—but still I can't keep you out of my mind—you . . . you . . ." Andy ceased for lack of an adjective worthy of use on her. She looked like too much for any words he knew.

"I wish . . ." began Nan, but Andy seized her arm, shushed her, as the sharp steps of an officer sounded behind them. It must be Ru-Non on her way to the bridge to take over the landing operations. She came out of the red-lit opening of the 'tween decks stair well, her eyes, grey as steel, alert under frowning brows as bushy as a man's. Her muscled, masculine figure military in its erectness, she hitched her sidearm dis-bulb higher on her slim hips—paused beside them, her brutal slash of a mouth sneering at them. Her square, strong face looked suspicion at Andy.

"Andy Miller, some of your loose talk has been reported to me. Better remember that you can become a slave again, little man."

"Sure, Chief. I get it. Button my lip, eh?"

Her piercing, insolent grey eyes, cold as a fish's and as empty of human expression, looked at both of them curi-

ously for a moment, intently, as though photographing them for future reference.

"Get your account books ready for a cargo, Nan King. There will shortly be an overturn in a certain government below."

Ru-Non, sometimes called "the Cruel," and many another name when one was sure she was not going to be told about it, strode off. Andy turned to Nan.

"Now just what do you suppose some squealer told her I said?"

"Aw, she was just poking in the dark. Don't worry, Andy, we ain't much better off than slaves anyway. It's purely a matter of mental wool. We ain't got any freedom, we gotta work, we get about the same food. We get an occasional night out—when we're in port—Yeh; 'be back at twelve.' Nuts to 'em. There's lots of slave compounds more fun than this old boat, Andy."

The ancient black hulk of the *Dark-spear* screamed on down through the air, heated to a dull red. Her speed slowed now to a mere ten or twelve hundred miles per hour. She cooled off, her hull black again all over as the night shadow of earth swallowed her rakish, time-mottled length. Visibility range? Sure, but it didn't matter if they were seen—Andy thought savagely. Some smart reporter would figure out an explanation as "hallucination"! "Space ships weren't invented, unfortunately," the reporter would say, in several inches of valuable space "so it couldn't be anything but hallucination. Sun in their eyes, sure."

Far below New York spread now a vast pin-pointed pattern of wonder in the sudden night, and the *Dark-spear* shot on over and down in a long arc, to plunge at last into the sea with a great smack. A giant's bellywhopper gey-

sered behind them as she sought the black pressuring depths of the Atlantic. The air compressors built up resistance with a laboring throb, and deep within the hiding water, the *Darkspear* circled back toward Manhattan Island, and to a tryst with one Red Nake, of Ontal City.

ONTAL, in case you don't know, is a great cavern city under New York. It is largely uninhabited, as it has a surface area about twelve hundred times larger than the floor space of New York itself, due to its endless tiers of borings and chambers in the mother rock of earth under New York. Put Rockefeller center into solid rock, multiply its floor area by a million, and you have a rough idea of the labyrinth of empty antique building and boring under New York. But Ontal has inhabitants, quite a few of them, though their contact with New York's warehouses is necessarily secret. For the residents are descendents of people who have parasitized earth's surface races for uncounted centuries. Too, there is a steady influx of surface men and women—but, of that, later.

Far out in the Atlantic, the black, deadly length of the *Darkspear* came to rest. Her long-range space visi-rays reached out invisibly, through the water, through the rock, focusing, unnoticed by any in the Stem of Ontal, upon the throne room of the Stem Palace, the place where the ruler of Ontal, Ben Uniatty, was just then seated.

At the great vision screens within the ship's war-ray chamber sat Ru-Non, reading the thoughts of the old man as the conductive beam augmented them, watching his face. Interested, she leaned forward, for old Ben Uniatty was marked for death—and she was checking his thoughts for the information she had had of him, to see if it

were correct. Beside her, Altor, her chief subordinate, flicked a ray over each guard ray position in the whole stem palace, counting, estimating the range, checking everything in the palace of the Stem for the accuracy of this check with their information would tell them two things. One, was their informant, Red Nake, a liar or not? Two, was the Stem too strong for the war-ray of the *Darkspear* to crush?

At a dozen other great old screens in the war-ray chamber, a room that ran the full length of the under side of the ship, sat women startlingly like Ru-Non in appearance—as alike as identical twins. Centuries of inbreeding on their planet, years when the men had been killed a-warring, and centuries of life when a few men had fathered the whole race of the Tirans, had resulted in Ru-Non's race, a race of people nearly identical in appearance. They were Amazons for the same reason, war had nearly removed the male from their race, except as a necessity for propagation. They were a despised but tolerated necessity, though some few Tiran males were rich and powerful.

Altor, waiting at Ru-Non's side, to relay her orders over the ship's sound system, was some years younger than Ru-Non, better looking.

Ru-Non spoke at last, her voice cold, incisive as a bit turning on metal in a lathe, the words like falling metal cuttings.

"Altor, the young snake, son of Red Nake gave us accurate data. For that we will play his game. Old Ben Uniatty is a people's man, means to give the ancient secret to the surface. Even now he has inserted ads in the newspapers of the city overhead, calling for young men to train, and has offered them fabulous salaries. We have arrived just in time to scotch a powerful rival in space, for once these earth people

get space ships, we would have an endless battle with them. Old Ben would never sell us a slave, and if he knew we lay here, he would order every ray in the stem trained on us. We are even now in such jeopardy from that old man that it seems safer to attack than to flee. What say you?"

"I have heard of Old Ben Uniatty. He is a wizard who has fought all his life for the people of Ontal, and to bring the ancient secret sciences to the people of the Earth's surface. If we take this place, my Ru-Non, save the old wizard for ourselves. You and I might learn many a trick from the old magician.

"People!" Ru-Non was not listening to Altor, but to her own savage thoughts. "Why do these fools care so much for the stupid workmen? It is always strange that they should give so much of their own lives for other's goals, to make it possible for people to multiply until they crush each other underfoot. Bugs!"

"You are right, my Ru-Non. Life is wholly a matter of survival, of struggle for survival. Only the strong have the right to life or the rich things of life. The rest must perish. Why worry about them? Blast the life from the whole city with your ray, and we will be on our way. Kill them all! They would prove unwilling slaves." Altor knew that the way to get Ru-Non to do anything was to urge the opposite, hoped that if she said "kill," Ru-Non might save them all for slaves. And Altor wanted Old Ben to teach her some of the things she had heard he could do with the antique mystery mech.

RU-NON responded, enigmatically to her hopes, "Nay, I must wait till Red Nake's son and his father's veterans—what are left of them, are

admitted to the palace. It is the hour of audience, and as a ruse to gain entry, the Son of Red Nake is petitioning Old Ben for a favor—for a "pardon" so that he may "live in peace in Ontal." This hour of the audience is the only hour he is safe within Ontal—the only time we can get a man into the palace, who knows how to work the water gates lock.

Ru-Non sat watching the scene within the throne room of the Palace of the Stem, where, unsuspecting the gathering death-storm, Old Ben Uniatty sat in state.

The "Stem Palace" straddles with its ancient bulk of connected chambers several great continent-long under-earth tube-ways of the Elder race.

This strategic dominance of the Stem Palace served to make it a natural bottleneck for levying tribute from all the commerce of the underworld. He who held the Stem held Empire over all the subterraneans of Eastern United States.

Ben Uniatty has held power in the Stem palace for over a year now. Today, July 4th, 1946, he sits there on the great crystal throne which once long ago seated an Elder God-man, and has since seated a long line of bloody tyrants over the underworld, and has at last fallen into the wise and gentle hand of Ben Uniatty. Over his head are the miles of granite and above that the towering bee-hive of Manhattan.

The gloomy grandeur of the ancient throne room with its massy crystalline seat of power, a throne huilt as if made of flames of pure yellow crystal the points of the flames upholding the seat, and the back of the throne accented into a glory of dignity of power, into a mystic impression of God-head by the outspread fan of shimmering, flame-carved crystal. It is a throne room surrounded by vast caryatids that carry in their faces all the grandeur and wisdom

of that Elder race who placed them there, and by some chance left the seed of man on earth. These pillaring sculptures are of a rock hardened by some process of the Elder race's science to a vast harness, so that one pillar takes the place, in strength, of a score of square yards of ordinary rock. Their engineering, using such hardened rock, was able to remove vast areas of rock without weakening the strata that supports the whole upper surface of earth. This hardening of the remainder of the rock during their removal of rock in boring their endless dwellings was the secret of their ability to build so far beneath the crushing weight of earth's crust.

Surrounded thus by all the wisdom and glory of the ancient race whose passing has left earth heir to all the misery we call modern life—sits one of the few hopes of modern man for wisdom and swift progress. The scientist, the Ruler of the Stem and of all the city of Ontal—Ben Uniatty.

Ben is a man whose age nears the century mark, but his use of the antique mechanisms for renewing his youth leaves him looking like a man of forty. His hair is white, but his flesh is firm and ruddy, his step strong and agile, his hands steady and clever as a youth's. Ben Uniatty is that fabled human we so often read of, a wizard of the antique magic, and his wizardry is based upon the firm rock of his study of the terrific ancient science of a wiser race.

Ben sits on the great throne, waiting to hold audience with the people of Ontal—those unfortunate victims of Bonar Golz, whom Ben has replaced by poisoning him as he deserved. Ben loves these poor, emaciated, huge-eyed, pallid-skinned, distorted-limbed products of an age of life in the dark, under the failing synthetic sun rays of the beneficial ray-mech of the Elder race,

and is trying his best to start them back on the road to greatness.

AT UNIATY'S feet on the step of the great throne sits Nita Onray Flores, lovely mistress of the ancient dances of the caverns, a woman vastly popular with the poor and beloved of her husband. Her flower-fragile face with its too great eyes bends diligently over one of the tremendous metal foil books of the Elder race, she is puzzling out the difficult symbols, (symbols it would take me paragraphs to describe the packed meaning of one of them, as they used a multi-concept symbol since vanished from human thought). Nita has learned to read these books by means of the text books in the ancient stores and is a real "witch" of the antique secrets in her own right. Too, the beneficial rays of certain ray-mech make the brain active and such deep things open easily to the mind of one with beneficial rays turned on the head.

Brack Longen, long-nosed descendant of the Picts of England, (those not mentioned in "public" English "history" who dwelt in the Elfmounds and the underworld of the British Isles)—whose trade, an hereditary one, is repairing and keeping in running order the ancient unrusting mechanisms of the Elder race—is working in one corner of the throne room. He is tinkering with a brain-converting machine left by Bonar Golz, the one Bonar had used to take the mind of a man and replace it with a slavish submission.

Tim Shanter, that red-headed descendant of the Irish "Fey," happens to be sleeping, as he is now in charge of the night watch, and of night repairs on mechanisms when needed.

Bill Flores, elegantly dressed in a suit of linked "netznot," the Elder fabric of impervious metal fibres, cut for him by Nita's clever fingers, leans

against the throne's great arm negligently, idly looking over Nita's shoulder at the wonder pictures in the great old book of Metal Foil. At the door sits a guard, watching the multi-screen to which all the guard rays—rays reaching out over the whole vast near-empty warren of Ontal, are relayed into one composite picture of the whole city and the cavern ways from fifty miles beyond. Now and then, into this multipicture of the city, protrudes the head and shoulders of a pacing guard, checking the ray nozzles which circle the whole upper balustrade of the Stem tower, a tower that stretches straight up through the open bowl of Ontal and on into the solid rock of the upper strata. This balustrade surrounds the whole vast pillar of pierced rock which is the top of the Stem, and serves to hold the auto rays, which are ever a-swing over the whole vast ancient glory of forgotten Ontal.

Into this gloomy but peaceful scene on the multi-screen came suddenly motion, and a certain threat! A cavalcade of men, mounted on the antique mechanical animals called "Xontors" (a machine built like an animal by the artistic Elder race, but filled with powerful machinery to drive the legs tirelessly). The Xontor resembles a sleek, metal scaled lizard, and is beautiful in a shining, reptilian way. These men rode carelessly up the great Central "Way of the Stem," the tube road to which all the eastern underworld ways connect at some point, to lead at last to the very center point, "The Palace of the Stem."

The guard at the wall-filling multi-screen called out anxiously to Ben Uni-
aty—"Bunch of outlaw guys mounted on Xontors coming up the main Stem. Can't make out who they are, but they look to me like some of the guys that used to work for the late Red Nake.

Looks like they might mean trouble, Chief!" (Ben, far from insisting on formality among his men, encouraged familiarity, his theory being that love and loyalty were far more important among his followers than formal discipline. In return he got a beautiful discipline without throttling red tape.)

BEN UNIATY lay down the "surface" newspaper he had been looking at, rose and walked down the ramp which had sometime been built beside the too high steps of the throne, (designed as it was for the twenty foot adults of the Elder race) and took the guard's place at the controls of the multi-mental-screen. "Stop that bunch in the court. Admit one man only, and that one their leader!"

The newcomers, about twenty in number, young, confident, marked with the cold eye and brutal, callous face of killers, who had made Red Nake, the elder, the most feared man of Ontal next to Bonar Golz, remained beside their mounts. The son of Red Nake strode with an insolent smile forward into the gates which by all logic should prove an entrance for him but to death. The gates swung gloomily, slowly open, their ancient mechanical innards groaning, and then clanged shut ominously behind him.

At the sound one of the older of Nake's men murmured, "If those space slavers don't show up, that's the last of the line of Nake. Small loss, I guess."

"Shut up, you fool! The rays'll catch on. Trying to kill him?"

"I got no quarrel with Ben Uni-
aty. He helped many an outlaw against Bonar Golz."

"Sure, but he can't buck the space trade. They don't want any smart guys like Ben Uni-
aty running the Stem or any other underworld outfit. They

would be afraid of him. They want a young fool like Nake, that they can wind around their fingers. They want someone who hates the surface men. They'd be afraid to come within a light year of earth if Washington had real antique rays to fight 'em with. Get wise to yourself—Ben Uniatty ain't got a chance. Nobody has that don't play the space slavers' rotten game."

"I'd like to try it just the same. They're plenty too rotten to work for. They hate anything connected with earth. We never get anywhere working for them."

"Well, shut up, before you arrive somewhere dead! Where do you expect to get? Ain't you got more now than guys that have to work for a living?"

AS THE thin, sneering-lipped, long-nosed, narrow face of young Red Nake appeared at the great arch of the entry to the throne room—bowed mockingly to Ben Uniatty. . . .

* * *

Outside, in the cold, pressuring depths of the Atlantic—Ru-Non, breathing hard under the thick, impressing air, raised one hand slowly, then dropped it in a sharp cutting motion. Altor, watching her, began barking orders into the microphone. . . .

* * *

Ben Uniatty, angry through and through—barked at young Red Nake.

"You know I've placed a price on your head, you young devil. What in the Demon's name do you want here, what do you think I'll do with you?"

"I claim the ancient customary safety of the audience. I came to beg a pardon, to show my willing . . ."

* * *

Even as he spoke, outside in the Atlantic the orders were being relayed along the great old ship's sound sys-

tem. . . .

"Battle Stations! Kill each man who is in place at a weapon in the Stem palace or in the city. Then kill each man that attempts to reach the controls of a mech. Do not kill unnecessarily, we want a cargo of slave-flesh out of this—as well as the main part of the loot of the Stem. Fire!"

A good hundred terrible, flaming penetrative rays flashed suddenly from the long war-ray chamber of the *Darkspear*—lanced swiftly here and there through the palace of the Stem. Within seconds no ray mech of the Stem palace's formidable armament was attended by any but dead or near-dead men. Ru-Non laughed, a short triumphant bark.

"Hah. So much for your wizard of righteousness. He lies where your ray put him, unconscious. Are you sure you want him, Altor? He has not been such a successful wizard that I would value his wisdom over-highly!"

Altor did not answer directly, only said: "Just to be careful, I'll order no man of Red Nake's left near a ray, so long as we are vulnerable from the Stem. Keep each man of them constantly under a ray until we are clear of this ancient Fool's nest."¹

¹ No, the year is not 2,000,000 A.D. or any other imaginary number—it is the year of our United States 1946. These dead shells of underworld empire have been lived in, under our feet, by Indians long ago, and in later days by an influx of underworld predators from Europe. Long before Columbus sighted Haiti, the "Black Man" was known to the Indians of the North American continent, and the "Great Spirit" had his imitators who produced his image from the ancient machinery of the caves. Even today the natives or the Indians of some parts of the world know and use the ancient lost world of the caves, and keep the knowledge from the "white man". They were built by an ancient race, perhaps before earth had a sun, and the super dry air of the depths, insulated perfectly as they are by the pressured miles of rock, which under such pressure is impervious to the slightest moisture, has resulted in a perfect preservation of all the superior scientific living tools of an ancient God-like race.—Author.

CHAPTER II

RED NAKE looked proudly around at the sudden doom that had struck the men who had poisoned his father. Nake took one kick at the recumbent body of the old man, then mounted leisurely to the throne, savoring the feeling of power it gave him. If all went well, that deadly ally of his, lying in the depths of the Atlantic outside the dense under-rock walls of Ontal, might leave the rule of the place to him, as they were known to despise earth and all its poverty; it was "no place to live." Nake found a button near the throne which released the lock on the great valves of the outer door, where his father's followers, who were lately his own slightly doubtful retainers, waited. No use giving the space raiders all the advantages. His own men could invest the palace, then let in the warriors from space. Not until his men had been stationed about the palace did he turn toward the levers activating the mechanism of the little used water gate. His men had been warned away from the stationary weapons by rays which stopped their approach, and Nake realized that he was completely at the mercy of the ship outside, anyway. He gestured at the man who stood by the doors of the water lock.

The water gurgled beyond the metal wall-sheaths of the throne room. Nake sat down gloomily, waiting the coming of the slavers from Space. He knew that expecting anything in return for his services was a gamble. But the sooner they got what they wanted and were off into space again where nothing could happen to him and his plans, the better. He felt distinctly unsafe; they held all the cards. He had but one little dis-bulb gun-tube at his hip, which he had picked up from the fallen Brack Longen's holster as he passed. A ray

from the *Darkspear* had pricked his hand in warning, but he had boldly thrust the thing into his belt.

The gurgle of the water ceased, and a prolonged throb and hiss told Red Nake the pressure pumps were driving the stored air into the lock from the great pressure tanks—driving out the water, freeing the submersible space ship from the pressure of the ocean depths beyond. "Canny of the Elder race," Nake mused, "to build cities in the rocks so deep even an atomic bomb could not touch them, to place the only big ship-size exit to the upper world where even penetrative rays could not find it, in the depths of the ocean. Handy for a bunch of ray-men who wanted to prey on the upper world unnoticed. For nothing but the most superior types of antique penetray could penetrate through the material that separated the Elder world from the upper. And there was little chance of upper world men getting those into their hands. Not now, with Ben Uniaty helpless at his feet!

A vast metal segment of the wall swung out, and Nake could see the dripping walls of the waterlock room beyond, the gleaming sides of the vast *Darkspear* lying in her cradle, and looking like a terrible and deadly leviathan of power. He could hear the officer; his officer, Nake thought proudly, barking his invitation to conference at the tall, short bodied figure standing in the opened lock door of the mighty ship.

"An Amazon!" mused Nake, noting the shot kilt and jeweled halter, the side-arm dis-ray handy at her waist, the erect alert carriage. He had heard of these warlike women slavers, but had not expected them to turn up after he had told the moon agent of the slavers to communicate with them. He had expected, well, most any one else,

and the Devil cared who. The voices from the ship's entry port boomed hollowly through the wet tunnel, ominously—it seemed to Nike's fears.

Nike's officer turned on his heel, came striding back, the Amazon chief-tainess matching him stride for stride and doing it a little more efficiently, more martially, beside him.

THE officer, a smaller replica of Nike's slim, dark, deadly masculinity, stood at attention. "Nike the Red, son of Nike the Red, Noble of Ontal—Her honor, Ru-Non, The Cruel, commander of the Tiran space-warship, the *Darkspear*, just taken cradle in our water entry port.

"Welcome, Commander Ru-Non." Nike was negligent of true courtesy, did not rise, only looked gloomily down upon the stiff, unsmiling Amazon from space. Nike hoped vaguely that his officer had got the titles straight—was glad he had not announced him as "Lord" of the Stem—for his succeeding to the power in the Stem Palace depended on this Ru-Non. Nike did not know properly how to treat her, decided it was best to bluff at being not over-awed by her power. "I have not had the honor before."

"Never mind the formality, Red Nike's son. I knew your father, and I do not think more of you, which is not much. I am here for a cargo of slaves; I can dispense with other fol-de-rol. Round up the followers of this Ben Uniatty whom I have disposed of for you. Let me see them. As for the loot of this place, I will look it over with my rays from the ship; I doubt there is much here worth my bothering with."

Nike signaled to one of his men, who, with a half dozen others, began prodding the unconscious fallen into wakefulness. They were for the most

part not dead, but knocked out by a sleep-ray of high power.

Shortly some hundreds of the followers of Ben Uniatty were shoved into a line and chained wrist to wrist. Among them were the lean, desperate face of Bill Flores, and the drooping, flower fragile face of Nita Flores. They looked at each other with a horror of realization in their eyes. The life of slaves in the far off cities of the space pirates was known to them, was miserable. Ben himself was kicked awake, chained into line with Tim Shanter and Brack Longen. Ru-Non looked the long line over deprecatingly.

"Is this all?" Ru-Non was scornful. "Small pay for risking my neck for you under Ben Uniatty's ray. I would not have turned aside had I not expected to get something worth while out of it."

"Be not discouraged, honorable one. There will be others shortly. I have been keeping tabs on old Ben for some time. He has ads in the daily papers on the surface. Look here."

Nike picked up a paper lying beside him on the wide seat where Ben Uniatty had dropped it but a short time ago. It looked incongruous there on the wide, gleaming seat of the wonder-carved throne, speaking of an antiquity so great that no man can give a date to it. Nike pointed out the caption at the top to Ru-Non, "The New York Times." She stepped up the three tall steps of the dais and leaned to see better what he was trying to show her. Nike's hand slid fearfully in spite of his will toward the sidearm he had taken from Ben, which was about his waist. But Ru-Non fixed him with a scornful eye, the hand stopped. Nike leafed rapidly through the paper to the ad sections, pointed out to Ru-Non a lavishly spaced ad.

WANTED: At once, young men and women, technically trained—able to travel. Top pay and all expenses. Wonderful opportunity.

Valuable training courses in electronics included. Apply to Synthia Metals Laboratories, 1182 North Central Avenue.

NAKE went on, pointing to the ad—"This address is an office connected by a door with one of the great warehouses where Bonar Golz used to buy the foodstuffs he sold to Ontal and all the eastern cities. Bonar used to use the same kind of ad to get himself slaves to sell—so I have heard. Ben was going to train these men in the use of the antique rays, send them back to the surface world to break the ancient secret once and for all. They will be pouring down here in trucks, brought by Ben's own men, soon. We take over, send our own men back on the truck for more, and thus take over the office of the surface warehouse. You should have a full cargo from this ad within days."

Nake's eyes were watchfully on Ru-Non, measuring her, and not getting very far with the job. Why did she leave the Stem Palace to him when she could put her own men in? He was in no position to resist her! To Nake it was the acme of desire, the only great value in a life of no value. To Ru-Non it was a ruin on a backwater world which no sane person would inhabit had they the sense to take to space. Let the fool have it, she wanted it not. Her eyes were non-committal, her face as stony and unreadable as a block of granite. She was not greatly interested in the whole thing, now that the Stem had fallen. Nake went on.

"When the young flesh arrives, they will be hired, all of them, no matter what their demands or objections. They are told the work is of a confidential nature, and they must be prepared to leave at once for a destination they are not given. So had Ben arranged it. This need for secrecy they are told is due to the development of an invention not

yet on the market which might be stolen by a competitor. The young people leave, enthused by their acceptance at a rate of pay they had not expected to get for many years in their line of work. They thus relieve us of the necessity of explaining their disappearance by doing it themselves naturally, and the laugh is that Ben had all this arranged for his own plans. When they return, ready for travel, we ship them down here by the truck load. They are never heard from again. After a few weeks the office of Synthia-Metals will be sealed off from the warehouse, and rented to another tenant. No one ever inquires where they have gone, and if they do, from whom should they inquire? Thus the ancient secret is kept for us. Simple?"

"Simple, yes." Ru-Non nodded wearily, a little bored with the son of Red Nake, who did not appeal to her. "This ad business will fill my ship with labor in how long—how many days?"

"Three to four days should jam your cabins to capacity. New York is vast, you know. Young people of this United States all pour into New York City—it is to them the land of opportunity."

"Good. So long as you remember who put you in that glittering seat of power, we should have a long and profitable association in the future. New York is a vast city. Nake, you see that you have ever a cargo of these young things from overhead waiting here for me, and you need not fear from space. Forget you are my man, and I will bring death swiftly to you." Ru-Non's voice lost its emotionless monotone, became for an instant the real cold of space, of death itself. Nake looked at her eyes, blue as the sky in this artificial light, yet grey and cold inside as death. Nake shivered. He realized how short a man's tether would be with this woman his master. He had heard of

her. But he managed a grimace of pleasure in answer, though even his cool nature was somewhat chilled by this stony-faced slaver's manner.

"I will have always a cargo of the best waiting here for you, whenever you may find your space path near to earth. That is not much to do for the favor you have done for me. They will cost you nothing, ever."

* * *

BILL FLORES, worry for Nita's fate making him weak, leaned against his companion, the wiry, long-nosed Brack, while with his other arm he supported the drooping, weeping Nita. Both were heartsick at the death of all their plans, to teach the surface men of the ancient wisdom, to make the earth so vastly better a place to live, as they could have done. Gone, gone, all gone. Now they knew they had but to hope for a life of drudgery on an alien planet, among people who would beat them for speaking in an alien tongue. They watched the pair scheming, their heads together on the throne. Nake's cruel, sharp-nosed, serpentine coldness contrasted the brutal, muscular Amazon's hard face so eclipsing Nake's in inhuman expression.

"Pair of birds for you," muttered Brack into Bill's ear.

"Lovely ending for our plans for a future for the men of the surface. What has become of the 'Helpers.' They always pulled Ben out of these jams before."

"It was more likely Ben pulled them out of their jams before, and today Ben has fallen. They must have been killed."

A whip lashed out from the guard who had lined them up, struck Bill Flores across the naked shoulders. Blood dripped from the barbed thong marks down his arm.

"Silence, lice!" The guard's voice, shouting at them, seemed the signal for Nake and Ru-Non to break up the conference. Ru-Non raised her hand, gestured with it toward the great door still hanging on its multiple hinges, showing the still-wet sides of the ancient *Dark-spear* within the water lock. The guard harked, and his whip lashed out again—the line of drooping-shouldered slaves moved off into the damp gloom of the water entrance.

CHAPTER III

FOR days Nita, Bill, Brack Longen and Tim Shanter had lain in the long slave hold of the space ship, chained to the wall, and daily the quota of captive "earth-creatures" had grown.

Brack and Bill watched these tall, muscled well-nourished men of the surface thrust into the dark, smelly hold—their consternation and unbelieving realization that what they had thought an excellent job had turned into some kind of slavery—what kind they had yet to learn. From what Brack had heard the learning would not be pleasant for them.

The slave compartment of the *Dark-spear* was what had once been a ballast compartment, perhaps. It was a low narrow chamber running the full length of the ship, beneath the weapon chamber. It was here, there was barely room to stand up, and the slaves were chained to wall bolts, placed as close as possible. The air was foul, there was no room for movement to ease cramped muscles. There was a guard to release a man when necessary for natural reasons, but half the time he was asleep, and angry when awakened. The hundred odd men from Ontal filled but a small space in one end of the long compartment. The hold filled gradually day by day. The ads old Ben

Uniarty had placed for his projected organization of modern surface men into a fighting ray outfit to clean up the caverns bore fruit—fruit for Ru-Non's pocket. The young men, and a few women, were thrust by ones and twos into the hatches, to be chained against the walls by the guards. Their talk was a mixture of questions, of wonder at this ship, its nature, what had happened to them—where were they being shanghaied to—what it was all about anyway? Brack pitied the disillusionment they were due for. He engaged one of them in conversation—

"Surprised to be here, eh?"

"Surprised is an inadequate word. Just what is this ship, anyway? What is this all about?"

"You'll learn. You probably wouldn't believe me now if I told you."

"Well, you can try! You don't seem to be very busy."

"Well, this thing you're in is a space ship. You are going to a great slave mart in space, under another sun, where skilled men like yourself bring high prices—as slaves."

"Isn't there anything a man can do about . . . say, a space ship! There aren't any space ships. They aren't invented yet."

"You're right, but you're wrong. These ships were built an age ago by a forgotten race. That race lived in all the planets of space that we know of—long ago. Sometime, unknown when, they abandoned this whole part of space. Since then, their ancient homes have been taken over by savage, barbaric native people—and on earth—these people have managed to keep the existence of the ancient caverns—the places where these ships and similar mechanical marvels of the Elder race are stored—secret from the surface people. This makes it handy for a slave trade with the people living in neighboring

planets. Do you understand?"

The young man, a graduate of Harvard Technical Laboratories, gasped a startled wonder. "You said I wouldn't believe you. I don't! You are stringing me!"

"No. You see, I'm a native of the secret earth caverns myself! And I'm fallen to this. I know what it's all about. You'll learn. So will these others."

THE young men began to digest Brack's info slowly, with much talk, much speculation as to its possible truth. Then, the hold jammed with some 1500 young men and two or three hundred females—the jets began to pulse, the *Darkspear* to move out to sea in the depths. Then the space-power jets took over, the *Darkspear* thrust up to the surface with a terrible rush of force—outraged gravity and inertia crushed them to the metal walls and floors painfully. The chains tore at their limbs as the ship rushed on and up into the dark night sky. The *Darkspear* climbed, a great rocket of dark force—skyward—spaceward. Pain and the crushing force stifled all voices, but curses and low groans. Then the pressure eased off. Earth's hold was broken. They crouched there in the pitch dark, shoulder to shoulder, hip to hip, and nothing but the roar of the drivers, the tramp of military sounding feet overhead, the sharp bark of an occasional order, and their own low pitched murmuring. Then from the far end of the hold, a deep voice spoke sadly.

"These people from space, they are enemies of our government, aren't they?"

"These people who have us are pirates, the scum of space, the worst hands into which a man could fall!" Bill answered.

Shortly from the same direction came a sharp short struggle. A scuffling noise. A barked "What's going on?" The lights flashed on and the guard came running down the short stair well. Toward the far end of the hold he paused, bent over, then lashed out three times with his whip. "Don't try to hang yourself again—there ain't room in those chains for it. Lots try it, none ever succeed. Now quit your acting up, I need some sleep."

When the guard had returned to his cubbyhole above the stair well, Brack called.

"Just why were you trying to hang yourself?"

"Well, I shouldn't tell you, but don't seem able to keep my mouth shut. I have been working, during the past war on the development of the atomic bomb. Naturally I don't want the secret of the atomic bomb falling into any space-pirate's hands—even if I never knew there was a space pirate before today. I figured all I could do was hang myself."

"You were right. These people probably haven't even read a newspaper—don't even know or care if we had a war in which atomic bombs were used. But they read minds with the ancient telangs, will sooner or later find out that you have a valuable secret. Then it is curtains for many a nation of space. Nothing could stand against these space ships, equipped with atomic bombs."

"Oh God." The deep voice was desolate in his helplessness. "Now I've told you men. They read minds! They are bound to read it in some of your minds! I won't get a chance to do away with myself. I'll be making atomic bombs for things worse than Hitler, probably."

Brack held out little hope. "That's exactly what you'll be doing within a

fortnight or two. If you are going to kill yourself—better get it done."

A ray lanced down into the dark hold, and a mocking face appeared in the ray's nimbus, the measured mechanical tones of Ru-Non's voice spoke—"You needn't bother killing yourself. We have acquired the bomb plans long ago. It is good for earth that we dwell too far away to want her—that there are richer planets to be had for the taking nearer our home. The bomb plans were acquired by our agents nearly as soon as your government had them ready for use. Those plans are one reason I have been ordered to acquire a number of technically trained young people for development of suitable plants for the manufacture of these bombs."

"Go away, you harpy. You give me a pain!" One of the young Americans expressed himself to Ru-Non's superior, objectionable image in true American fashion.

Ru-Non's reaction was instant. "Your name, you fool, is known by me! Any further instances of your insolence will be punished by a lashing you will not forget, if you live through it!"

The ray vanished, but Ru-Non's angry voice seemed to hover in the dark hold.

THE fellow who had insulted the ray spoke again. "Just who do they think they are, anyway?"

"They have been raised in and have inherited many centuries of absolute power—are descendants of a race who took to space in these antique ships long ago. They have been looting the caverns of many planets of slaves and necessary weapons and similar ships for no one knows how long. They are an hereditary ruling race—you are only 'slave' people—they despise you. Do not give them an excuse to be angry—

take everything—do exactly as told. Many of them kill for the pleasure of it!" Brack's voice was hopeless as he explained. He knew explanation was an impossible job. For surface men could never understand the caverns and their contact with space until they had known it, been part of it for years.

In the dark, the time dragged interminably, and apprehension as to their fate occupied the men, made them question Brack and Tim Shanter and Bill for their more cogent ideas on their probable life after the ship reached its destination. Old Ben was very sick, space sick—did not talk.

Their answers to the men's questions went like this: "When you arrive, you will be catalogued, your mind carefully examined for info on your training and capabilities—aptitudes, etc. Your description, your weight, character, etc., are all entered in the lists of the slave mart—to attract bidders. You are held there for weeks, well fed and groomed daily like a horse—to get you in the best possible appearance—as women who have money often pay large prices for attractive male slaves. These women are dominant in their society, you know. The men are usually nobodies, nasty little runts. Some of you fellows who have particular trainings they desire greatly, may be offered jobs at regular wages, taken out of the slave class—and made a soldier in their army, or given the rating of a technician of their space organization. The whole thing seems flexible, a matter of chiefs under a kind of privateer charter—who are subordinate only to their ruler at their home planet. They live on a dozen large planets, and prey upon all others for three suns distance. Their home government steadily expands—a kind of Rome of space."

Came the day when the air screamed

again around the hull of the *Darkspear*, and they knew they would soon feel the brand of the buyers of the slave marts burning their thighs.

The *Darkspear* lay in water, along a stone quay, and the sun above was bigger and vaguely different in color than the sun they were used to. The landscape they could see mounting up and up in rocky hills away from the docks was wild, wooded with trees they had no names for—conifers and hardwoods vaguely alien and monstrous in size, incredibly old. There were few buildings, and as they filed off the ship, they learned why, for the guards led directly to a cupola under which an elevator waited. They plunged down and down, miles of rock swept past the walls of the great cage before it braked to a halt. Out, and down the long corridors of the same kind of caves one was used to in Ontal—but which were new to the surface men from Manhattan.

The place was filled with life, like a tremendous fair, and barkers hawked their wares over megaphones and sound systems, and as they filed up, a man behind a wire cage spoke to Ru-Non, who strode ahead of the party.

"Register your stock, here, Lady."

RU-NON handed him a sheaf of papers, and the man spent minutes photostating the papers, stamping them, handing them back.

"Tier 32, Right Hand, Section A, quarters for your stock. Bidding starts at 9, goes on till three. Your stock will go on sale about three days hence, if the sales are lively. There are many buyers lately from Talamoff, they are rich, prices are good. You seem to have some fine stock."

"Best earth blood!" Ru-Non was short-spoken, the man was a menial to her—the line filed on, were presently quartered like animals in rude wooden

stalls, with straw for hedding. Food was brought them in wooden howls, there were no spoons, they ate with their hands. The meat was half cooked, but plentiful, and the milk was strangely flavored, but rich. Ru-Non did not want her "stock" looking haggard.

Outside their stalls, which extended tier after tier as far as the eyes can see, filled with men and women from a hundred planets, green men, blue men, women with four breasts, men with four legs and a body mounted on it like a centaur on a horse—a hundred types of life scrambled about the place in a business-like but mad bustle. In the distance they could hear the old "And the dance they do. . ." while through the crowd they caught a glimpse of the shameless nude dancer, and the harker promising even greater revealment and delight inside—

Bill Flores, separated from his Nita for the first time in years, kept climbing to peer through the cracks to catch a glimpse of the women's stalls some distance away. It was hopeless, but he saw a blue eye peering, through a crack and consoled himself with the thought that Nita was as desolate as himself. They both knew they had nothing to look forward to except drudgery or debauchery under some master—and the nature of that master would determine their life to come.

CHAPTER IV

BRACK, curious about this place and the nation of Amazons controlling it, engaged their guard in conversation. He was named Andy Miller, he told Brack when asked.

"I'm a son of a man from earth like yourself!" Andy looked Brack over, liking the shrewd, kindly, gnomelike face, the lean muscular figure.

"Tell me something about this race

of Tirans. I've heard of them now and then, I knew Bonar Golz did business with them sometimes. But I never ran into them myself before."

"Well, it's a long story, to give you all the dope on these people. They have fought in space for centuries, regular full scale planetary wars. They became an Amazon race because so many of their men were killed in their everlasting fights. They are a race that conquered themselves to death, if you know what I mean. A hundred planets pay them tribute, and when the war-lords ran out of Tiran manpower, the women took over and became soldiers. Now it's a woman's nation, through and through. Men like you and I are despised, even when free, menials—servants—you know how servants are looked down on, on earth? I've talked to lots of slaves from earth, it's always interesting to hear about the place my ancestors came from."

"How's come everybody talks English?" asked Brack. "I'd expect a foreign language."

"Well, it seems that a language very like English was once the universal language of space. They call it "Mantong." It's different—but what we're talking is a kind of "pigeon" Mantong that has grown up through their use of English speaking slaves for centuries."

This Andy Miller interested Brack; he seemed to know the answers. "What effect do you think their acquisition of the atomic bomb will have? A warlike race like the Tirans, they'll raise plenty H with that bomb, eh?"

"You said a large cbaw, there, friend. There's a couple of highshot races on planets bordering the Tiran Empire. These Amazons have been putting off attacking them for a long, long time, because they are not only numerous, they live on planets of greater density and size than the kind the Tirans are

bereditarily adapted to. Hence they are powerful physically. They have a lot of science, which they inherit from what they call their Titan ancestors. They are plenty different, tall, very dark people, and strong as oxen.

"There's a second race they are also very careful not to anger, a race of very tiny people, who live on an asteroid belt around a distant sun. They also have space ships and an advanced science, and have weapons superior to those of the Tirans. The Tirans have a kind of superstitious fear of them, as every time they have crossed them in the past, they have met with disaster. But now they have the bomb their feud with the nearer of these races, the heavy-planet people, who are called 'Divi,' will probably be fomented into a war. That will mean the death of a good dozen great planets, for I know they have now no weapon capable of resisting these atomic bombs."

"Divi, eh? That's a funny name. Never heard of them. How are they at fighting?"

"Plenty tough, but they are more industrial than warlike. They despise the Tirans, but have enough respect for them to stay out of their way. But this bomb puts a different aspect on the thing—I would bet anything the Tirans take them on within months."²

² The weapons and ships of the ancient elder race were familiar to the Tirans, and their centuries of use of these tools of the Gods had made their equipment as familiar and standardized as the rifle and the foot soldier are to us. Now this new element, the atomic rocket bomb, had entered the picture. The race of Tirans was the first to bring this rocket from earth, and their endless laboratories and armament plants on a dozen planets were at work now building these bombs in a hundred variants, for use in their warfare. The leaders of the race saw before them endless, victorious conquest of all. There were, on the rims of their empire, a thousand planets they had yet untouched because of inability to get past the antique space defense ray with which the planets were defended.—Author.

ANDY glanced up as a smooth looking blonde, in Tiran kilt, side arms and harness, sauntered over from her place by the female slave pens. "Hello, Andy. Who's your friend?"

"Name's Brack Longen, honey. He's a sharp fellow from earth, one of the slaves we picked up in Ontal. Brack, this is Nan King, women's overseer under Ru-Non. She was along on the ship. I'm sweet on her, but I know I ain't got a chance against the big shots she runs into around this place. Sooner or later one of them will grab her."

"I don't blame you," Brack grinned. "Nan King is certainly an eyeful."

Nan looked at Brack archly. Her smooth curves and honest, direct blue eyes, coupled with a fine regularity of feature, made Nan King a prize in any lottery.

Brack sounded her out, for he wanted to get the temper of these "servants" of the Tirans. All his life Brack had been struggling with one hard master or another, ducking corrupt lawmen in Ontal, keeping out of sight and out of custody while he operated against such men as Bonar Golz and Red Nake, the Elder. Brack knew he was not through. He was up against the same old struggle still, just the personnel had changed.

"You two seem to have a pretty good job with these Tirans. Do you like them?"

"Some of them; and some of them are pretty lousy bosses to be around. The Tirans are apt to have a swelled head, as you may have noticed."

Andy nudged Nan, shaking his head. Nan glanced quickly around, and Brack knew that they both hated the Tirans, would do anything to change their lot with them. For he had swung his head in just that furtive look for informer's ears too often not to know what it meant. It meant they were so

used to repressive tyranny that they could not even think an honest thought without worrying about it.

"Do these Divi's you spoke of have a bigger fleet than the Tirans? Do they build their own ships? Or do they use the same old ships of the Elder race like the Tirans do?"

Andy answered, for he understood who Brack was, and wanted to give him all the info he could, for his heart was with him. He had known of Bonur Goltz and his repression of the people of Ontal, had transported many of them into slavery after their sale by Bonur to the space captain. He had been overjoyed to hear of Bonur Goltz's death, and the seizing of the power in Ontal by Ben Uniatty, known for his kindness and wisdom. Now both Ben and his chief aides, Tim and Brack, were here in these pens, waiting for sale. His heart went out to them; to lose everything after a lifetime of planning and work had been successful was a sad thing. He realized that these men would prove valuable in any movement against the repressive Amazons from among the slaves, and Andy was not unaware that such a movement existed, for some darn funny things happened to Tiran Amazons sometimes. So far such things as a poisoned Amazon had been laid to foreign agents from the Divi or the diminutive race of Freyans—of whom the Tirans were afraid. But sooner or later they would realize their own slaves were working under cover against them, and there would be a housecleaning. Andy had no wish to talk about such things, had shushed Nan who was apt to be careless with talk. But he saw that to tell Brack Longen everything he could was only doing his duty by his own kind—

"The Divi have a dozen heavy planets covered with armament plants, laboratories and vast, many-tiered

cities. Compared to the Tirans, who hold a hundred planets under their Empire, one would think they were weak, but the truth is they are more than a match for the Tirans, for their planets are densely populated, and they are a smarter race—all free men, with a voice in their government. But the atomic bomb will change all that. It looks like the end of the Divi to me. The Tirans will never stop their conquest now, and there are a thousand planets lie within reach of these terrible ancient ships, yet untouched because they could not get past the space defense rays set up to keep off just such an invasion. But with the atomic bomb, they can lie out of range in space and drop an endless stream of bombs till every city is wiped out. Nothing will stop them!"

"One thing could, Andy! If you got me and a bomb expert from earth out of here and on our way to the Divi planets, we would get them ready for the Tirans, and it might mean the end of your servitude under these heartless Amazons. It could even mean you would win Nan King, if we made out successfully. The Divi would wipe the Tirans out with atomic bombs out in space—sweep in here and release all the slaves. Think about it, Andy, see what you can do."

ANDY looked speculatively at Nan King's provocative back, moving so deliciously, away toward her job at the women's pen. Then his hand reached into the pen, shook Brack's skinny claw. He did not say a word, only his eyes shone hopefully at Brack. Brack said: "I'll wise up the guys. There'll only be two or three of us. More would make it harder. If we win, you'll be a big shot. Then Nan couldn't help but fall for you."

"It ain't that with Nan, Brack. It's

a lot of other things. We earth servants, children of slaves, are despised, can't have any fun. If she married into another class, she could have parties, fun, clothes, all kinds of things I can't give her. It's hard to forget that. And these Tiran doctors ain't much, but if she had a kid, I couldn't even hire one of them. See, that matters. It all adds up to no sense to it, see, Brack. She wants to live, like anybody else."

"I see, fellow. Play it my way. I ain't exactly the dumbest slave they ever brought from earth, you know."

"I've heard of you, Brack Longen, Ru-Non used to laugh, tell stories of how Bonur Golz used to curse you and Ben. But don't talk in front of Nan. She's only a woman, and she can't always keep her lip buttoned."

Brack was not exactly as lost as one might think, for these caverns had been built by the same race that had built the caverns under earth's surface.

Brack knew that once loose in the abandoned parts of these labyrinths, which he had no doubt were as extensive, as empty for the most part as those on earth, and he would find ways of getting along. For Brack knew a great deal more about the Elder race than do many living men, for he was of a family who had handed down many secrets from the far past of life in the Elder caverns. If there were machines left intact by the Tirans because they didn't know what they were, Brack knew he would find some of them and be able to use them. And Brack wanted freedom as soon as he could get it, for once the Tirans realized what he had in his head, what old Ben had in his head for them that they did not know—they would not be allowed to do anything but sit at a "thought-augment" making steno notes for their officers to study. Now Andy Miller had given Brack hope that his end as a reference auto-

maton for inquisitive Tirans might be avoided.

As the days wore on, Bill realized, from bits of conversation, from rays which swept in to the pens occasionally to pump the new earth slaves of information, and which were in turn, pumped by the earthmen of everything they would answer—that space held no hope for earth! Space was, in truth, a vast barbarism where war and stupidity held terrible unbreakable chains around all progress. The hereditary rulers, steeped in a vitiating luxury of pleasure and dissipation, had no plans—no liberal minds, so near as he could learn. And in all space, as he questioned the people about it, and the rays that came from invisible sources—in all space there was no hope such as his heart longed for—some word of a superior, idealistic and cultured race equipped as were these cruel barbarians with the vast strength of the antique ray mech, the antique space ships—there was no such government that he could learn about. The future stretched before him, a labor for unwanted ends, a slavery for unloved masters, a nothingness until grey-death overtook him. This terrible despondency of truth-seeing absorbed him, and he slumped in his chains in a corner of the pen, not speaking to anyone—dumbly, hopelessly waiting for nothing he wanted. But the rays he had talked to had lied to him! There was hope!

CAME the day of the sale. They had been examined, scrubbed, their bodies oiled, and they stood in long lines, mother naked, awaiting to take their place on the blocks, of which there were several, and at each one an auctioneer—barking, reading from the dossier that accompanied each slave.

Next to the line of which Bill, Brack,

and Tim made three—was the line of women from earth, mixed now with women from other places—and Bill cast despairing eyes at Nita, chained wrist to wrist within the line of women. Above their heads the auctioneer barked data from the sheets of the dosiers.

Name—Al Waters—graduate of a technical college—engineer of electricity—earth born, 22 years of age, 178 lbs., blond, blue-eyed—strong, healthy, who wants him?

The buyers seated in circles of wider and wider cushioned chairs about the booths where the sellers barked, looked at the slave through glasses, chattered to each other, their silken robes shining in the blue rays of artificial lighting—gems gleamed on their fingers as they held them up to indicate their bids. They were a sharp-faced, lean lot, many of them, looking like Arabs, but seated among them also were the tall strong Tiran women and a few other women of blue skin from God knows where—The men seemed to be officials of factories buying for labor—while the women had their eyes on the men for other, more obvious reasons. The blond Al Waters brought a good price from a blue skin woman of uncertain age, bidding against a small, dark man whose pockets bulged with note books; who seemed to Bill to be a man who speculated in slaves—was buying only to get a better price elsewhere.

But Bill's eyes were watching the women's block, where a clerk from the Fifth Avenue shops stood naked before these people from a hundred different planets.

"Jean Frain, stenographer, age 23—married and divorced—no children—weight 120 lbs.—height 5'4"—brown hair, etc."

She was turned slowly about by the

Amazonian auctioneer, her legs stretched and flexed to show her supple beauty, made to squat, to leap, to skip from one foot to the other. Her face was a mask of embarrassment and fear; Bill wondered if she would not collapse before the ordeal was over. Bill noticed that on her back were the red weals of a beating, evidently it had taken the whip to apprise her of her status as a non-citizen, a bit of "stock". She brought a good price for she was pretty. Bill's heart sank to his bare feet as Nita stepped to the block. Said the auctioneer:

"Here we have a rare value. This little lady is mistress of the ancient art of dancing to thought-record organs—an art rare on earth, but an old one among certain lordly families of the caverns, which are secret there to the majority. She is also well trained in the use of the stim organ, and has been trained by the secret scientists of earth caverns for a part in their plan to rid the caverns of the chaos which reigns there—she knows her rays, gentlemen, and would be a valuable little ally to a gentleman who treated her right, as well as an expert dancer to entertain a man's leisure moments. She is married, and her husband stands over there where he belongs." The auctioneer pointed to Bill. "He probably never treated her rare beauty with the respect it demands from every discerning man, anyway—so bad cess to him, say I."

His sally against Bill was greeted with a roar of laughter, and the bidding on Nita rose to heights far beyond the previous sale of women. Strangely enough, a glittering matron of the Tiran's won out in this bidding, and Bill noted by the manner in which the others bid against her that they were afraid to raise her more than a pittance, afraid of her, plenty; it was on their faces. Bill hoped vaguely that she

wished Nita for other reasons.

AS Bill's turn came on the block—this same bejeweled, oldish woman bid high again, raising every other bid by the double. Again the bidders dropped off, they did not wish to anger her was obvious. Bill found himself led to a waiting globe car outside the auction rooms. Inside squatted a dozen naked earth exiles, mixed equally, male and female. Presently the trim bodied matron entered, looked them over shortly, and said:

"You are going to my home, to act as my slaves. You are very fortunate to be bought by me, instead of by others. I happen to be very high in the government of Iran, and my slaves take on an importance and a certain beneficial aura of influence. I know you men and women of earth were born free, and I will make allowances. I am not an evil person, as you will learn—but am ruled by expedience, as I advise you to be. I bought this Nita and Bill because I hated to see man and wife separated, and so that you can see I have a kind heart, and thus feel not alarmed at your strange fate on this alien world. Wait until you understand our life before you condemn it."

She locked the compartment in which they were confined. The half globe lifted on some ancient anti-gravity device, glided down the center of the great way-tube through the rock of this planet, Tirane. Presently the car stopped before the brightly lit entrance to an upward pointing ramped opening—which led up into their new life. Bill's arm was about Nita again—and life had lost its bitter taste.

CHAPTER V

BRACK had not long to wait before his conversation with Andy Miller

bore fruit. He stood there beside Tim Shanter and old Ben, silently watching the auction and waiting their turn to be hustled from their stalls and lined up with the rest. Though Brack doubted that they would be sold, but would be held by Ru-Non, and then taken from the pens as unsaleable so as to have them for herself. Then he heard the crisp metallic sound of a key grating in the lock. A young man in a guard uniform stood there, the door open.

"Brack Longen, I am here to get you and two others for Ru-Non's pre-sale examination."

Brack sauntered over to the man, looked significantly at two men of the surface of earth, seated against the wall. The young guard looked at an official-looking paper in his hand, walked over to the two earthmen, and carefully kicked each one of them hard in the thighs. They stood up, one took a sudden swing at the young guard's head, but he ducked it, promptly knocked the earthman down.

"No more of that, you scum." The guard seemed very angry. "Come along."

Brack bent over the man, helping him to his feet and in the process managed to wink at him. He became instantly very manageable. Tim and Old Ben Uniaty looked at Brack curiously, wondering what Ru-Non could want of him. It wrung Brack's heart to leave them, but he had things to tend to, and knew that the fewer the better. One guard would not be sent for five men, but would for two or three. And he had but one ally, Andy.

The guard followed them, flicking at them with his whip to guide them at the turns in the caverns. They entered, the elevator rose silently to the surface of Tirane. Soon the dark sides of the *Darkspear*, still lying in the water

where they had disembarked, loomed before them. Overhead were only the stars, and about was the shrill, insect-chirping night, the mighty alien trees, and the smell of freedom. And freedom with an alien smell—with alien air. Strange that the thought of freedom could bear such alien sensing, Brack thought.

The guard ushered them aboard the mighty craft. Here and there about the craft could be heard muffled movement, the sounds of sleepers, the unsteady steps of a late returning warrior from the caverns—when she was supposed to be on duty on the *Darkspear's* deserted, tiered decks. Discipline was relaxed here on Tirane where they had nothing to fear.

Straight to the vaulted, complex, control cabin machinery of the Elder ship bridge Andy led the slaves—and once inside, Andy threw shut the great valves of the bridge door, screwing down clamps once designed to protect against air loss in accident.

"Get her off — Brack. We'll hunt down the remaining Tirans aboard with a ray from here while you get her into space."

Brack stepped to the great control board, pulled a lever here, shot home a switch there. Within seconds the *Darkspear* glided out to sea, and within minutes she was blasting skyward. Nervously Andy Miller searched the ship with the visi-ray. Some fifty Tiran Amazons were sleeping aboard, and now acceleration held them with bands of steel within their sleeping bunks. But it didn't hold Andy, for he was seated before the screen in an acceleration chair before the ship took off. Andy had been to space before! Andy swiftly swung the sleeper-ray about the ship, and his smiling face told Brack those proud Amazons would sleep a long time.

"Don't kill them, Andy. The Divi will want to pump them of info on the Tiran progress in bomb making, their plans, etc."

"Right, Chief!" Andy realized he had a chief now and one he could be proud to obey.

THE two earth men stood, or rather were held against the bulkhead motionless, not only with the acceleration, but with the wonder of what was happening. The tall, dark one looked at his shorter sandy companion. "Just like—that! They walk right out of that place as if they owned it and steal a whole damned space-ship."

"What beats me," answered the other one, "is that space ships don't exist. I went to school. They—just—don't—exist!"

"I always did suspect them school books," agreed the tall one, grinning.

With anxious eyes and a nimble ray Andy searched the sky behind them for sign of pursuit. There must have been some alarm, a ship couldn't take off without some guard ray seeing it. There was!

Andy began to count aloud as one after another the fiery streaks of the jets showed in long arcs in the dark sky behind—then narrowed and shortened into tiny dots denoting head-on pursuit. One — two — three — Andy counted up to twenty.

"Some pursuit — twenty of them! They're smaller ships, I think, ships they use for local trips between neighboring planets. They're fast—but not too fast. Give her all she's got, Longen. They're hornets with a ray! Damn big-headed women. . . ."

Back worked over the control board, looking with his clever mind for some way of increasing the drive. All his life Brack had tinkered with and repaired the antique machinery, had a

pretty good idea what had gone on in the minds of the super-men who built them—although if he had to put his knowledge into words he would have been at a loss.

Brack noted on the slot in which the great drive lever slid, a little angle iron, of some corroded metal, bolted on to halt the long slide of the lever.

"Andy, do you know anything about this?" Brack pointed to the bit of metal and screws that held it to the untarnished surface of the antique non-corrodable alloy.

Andy looked, shook his head. "I've seen it before, on other ships, too. I figured they put it on to keep these female boneheads from wreckin' themselves and the ship. Take it off, see what happens."

"You might be right, at that. They wouldn't have the coordination of the Elder race, couldn't handle a ship in maneuvers as fast as the men who built it. It may have been a necessity." Even as he talked Brack was at work removing the block to the drive lever. Behind them Andy and the two earth men watched the pursuing dots of flame draw closer, felt the first terrible blight of the energy of the death rays the Tirans were throwing, even though not yet in range. Andy flung off the bit of angled metal, pulled the great lever back to the full length of the slot. And that was the last act either of them remembered for some time! Blackness swept down, engulfed them!

NONE knew how much later they came to consciousness, slowly, painfully. They were floating in the air—and that peace that can be found only in space when all gravitational and other influences such as acceleration are in abeyance enveloped them. Andy struggled slowly to the wall by kicking, pulled himself to the floor by

means of the hand rail, shook Brack awake with difficulty.

"What happened?" Andy asked Brack when he opened his eyes and registered consciousness again.

"I have an idea. What we can do about 'what happened' is what worries me?" Brack rubbed his head where a large egg-sized bump was turning a royal purple on his forehead.

"You gave her so much juice that she just shot out from under us, eh?"

"You know anything about these drives?" Brack asked Andy.

"The only thing I know is they put water in for fuel before a trip. That is definitely all I ever learned."

"Well, you're right, water is the fuel. I've taken these ships apart in the past to see what made them tick. In the drive chamber is a series of plates, which are electrified by some mysterious current generated by special dynamos within the drive compartments. That electric tears the water apart into its atoms, and I guess it tears the atoms apart a bit too. Anyway, from a little water they get an enormous stream of gases at terrific pressure. When I pulled that lever back farther than the Tirans had fixed it to be pulled, those dynamos went into high speed, and that juice that tears the water apart started to tear the water apart into a lot smaller parts than usual. What we got out of it was some kind of over-drive, a near approach to atomic power, I'll guess. If we hadn't been out in space and nearly weightless, the sudden increase in momentum would have killed us. As it is—we don't know where we are. There's a bell of a lot we don't know right now, boys!"

"You're telling me!" ejaculated the tall New Yorker. "I never knew I didn't know so much in my life!"

"Not only that." Andy pointed to the water gauge. "We're out of water.

We can't get back from where we don't know—without some water we ain't got no way of gettin'."

"Well, I don't know about you guys, but I feel a lot safer not knowing where I am than I did when I knew where I was. I like it lots better." Andy grinned—kept on grinning.

Brack was activating a vision ray screen in the bow, was looking over the old star-charts—so old no man knew when or who had made them—handling the time worn metal-foil sheets with the reverence they deserved. "Show me where we were, maybe we can figure where we have arrived."

"It's all Greek to me, Brack. I never had a chance to look at those things before, close like this. They guard all that stuff. It is their caste secret, you know. The secret of the 'eminence' of the Tirans."

"Probably don't want everyone to find out how dumb they are about it all!" Brack was poring over the old charts, looking for some marking that corresponded with the great stars that revolved slowly on the visi-screen as the great *Darkspear* rolled gently over and over, powerless, dead.

"**H**ERE," Andy pointed to a mark on the chart over a tiny dot, "that is the mark they placed to show where Tirane is on the chart. And here is an arrow pointing toward that great sun there. Can you find that sun?"

"I can't read this gibberish they've scrawled on the charts. I can't figure how we can tell where or how we are going to get anywhere—it just doesn't make sense. If you knew some of these stars and where the direction of Divl lay in relation to some fixed star—look out that screen again, tell me *something* is familiar."

Andy looked at the star-screen, picturing the whole hemisphere of the

heavens at which the bow of the *Darkspear* pointed. "It seems to me, coming back from earth, Ru-Non used to point the ship toward the little dipper there, a little left of it, see, and steer by sight."

"I see." Brack was scornful. "If she missed home the first shot, she just drove around the block. Navigation of space by sight driving. Well, if they can, we can. Divl should be at right angles to that course, eh?"

"But we don't know for sure, now, whether we have been asleep for hours or days, we don't know whether Divl lies ahead or behind. We just don't know what to do."

"Andy, it's up to you. You just set there and turn the ship around till you get a sight on something familiar and go for it till we see something more familiar and presently we will find a way of knowing where we are."

"You guys are forgetting one thing. We are out of joy-juice. We ain't got none—see. It is all burned up—gone—out."

"Go through the cabins, find all the drinking water on board, pour it into the fuel tanks. We'll get somewhere by pointing the nose at something familiar—giving the drives one good shot of disintegrating water—and then let her coast."

CHAPTER VI

BILL and Nita entered the great, luxurious chambers of the home of the Divnani Marnio Tiran, Head of the Department of Commerce.

Smiling, earth-man faces showed them to their quarters, and Bill and Nita were soon asleep in each other's arms.

The morning found them still asleep and beside their bed was the trim Divnani Marnio, shaking them to wake-

fulness. Bill did know what to say—it was somehow hard to realize that this smiling woman owned him as she owned her horses, her dogs—body and soul.

"Good morning, I am sorry to disturb you (which incongruity in her bearing Bill could not fathom) but I must seize this opportunity of being alone with you to explain many things to you so that you do nothing rash before you are adjusted. Just lie there like the young angels you probably are, and listen to me."

"I am the descendant of an earth slave! Long ago, my great grandfather sired children to a Lord of the Amazon Tirans, and the scandal was hushed—for with proud Tirans it is a disgrace to bear of a male slave—and the children made legal. But we of earth blood and normal earth emotions are rather numerous as you can understand, form a *clique* which has certain power. I bought you two, spending far more than I could well afford for you, because I was told by my informers who and what you are. Such knowledge as you two have can be immensely valuable to we of the mixed blood, for much of the ancient knowledge is secret—is available only to the inner cliques—of which I lead one. But my sympathies for you of earth having unfortunately been noted—I am not trusted. They are suspicious of the growing unity among the slaves, and suspect earth men of secretly organizing against them. If their suspicions ever come to a head, many such as you will die—innocent or guilty will not matter—it will be a holocaust."

"What can we do? Just what can we do to show our gratitude?" Nita was fully conscious of what their benefactor had done for them, and her voice shook with her earnest will to prove to this woman that her unlooked for favors were not unwelcome. The

trim old lady smiled at her young, fragile beauty—so beautifully expressing the clean young will within her.

"You can help me to keep the earth slaves from getting themselves blamed with everything that goes wrong. Certain corrupt ones in the government have been looting, killing rich Tirans, taking over their riches by ruse—and the earth slaves are blamed for their deeds. Naturally they are glad to find so ready a goat."

"Nero and the Christians," Bill spoke to himself.

"What was that?" The white-haired vigorous Divnani was nonplussed.

"An earth expression—it means: the goat is a white one."

"We, of earth blood, must band together and find a way of getting rid of those who blame us for all the evil of this land. I must go now—I have a government office to attend to. You behave yourselves, do a little work around the place—and presently you will find a way of making yourselves useful to me and to our mutual friends. Goodbye and don't try to run away. Your friend Brack had means, it seems, which I doubt you would be so lucky to find again. They will not allow that to happen soon again."

"WHAT is this about Brack—what did you mean?"

"Last night Brack Longen and two guards—or one guard—took two surface men from New York City—the atom bomb experts who were trying to keep it secret, and escaped. There was a terrible flurry all through the government, for the atomic bomb is now the big war secret of the Tiran government. They stole Ru-Non's ship—the *Darkspear*—and escaped with it into space. Twenty pursuit type smaller ships took off after the *Darkspear*, but once in space that wizard Brack did

something to the drive, and the ship disappeared in an instant. We know what he did—but the pursuit was afraid, for they never have used the overdrive and returned to tell the tale. It is too powerful for their skill in navigation of space to keep track of their whereabouts. They returned empty handed. The atomic bomb is no longer the exclusive property of the Tiran race in space. Does that amuse you?"

"I am glad, of course. I suppose we will never see our friend again, though it is good to know he is free. But tell us, before you go—what of the old man Ben Uniatty? He is like a father to us—what has become of him?"

"Ru-Non's chief officer has claimed him for part of her share of the booty of the raid—he will probably not be harmed. Perhaps I can buy him cheaply, he is old, and Altor is not greedy, is friendly with me. We will see. You will see him, sooner or later."

The Divnani turned, left with a quick step.

As Bill and Nita rose to dress, they heard a sharp cry not far off outside their door. Following the cry there was a sound of struggle, then the thump of a falling body. They rushed out of the tiny chamber to find the trim old lady sprawled on the floor, bleeding from a nasty head wound. They bent over her, and Nita took her head in her lap. She made an effort to speak—then her shaking hand took a tiny black metal foil book from her breast, pressed it into Nita's hand. "I am dying," she murmured. "Guard this book with your life. It is a very great secret." She closed her eyes, lay limp in Nita's arms.

As Bill and Nita shouted for help a tall Tiran female ran up, snarled: "So, two beastly murderers so shameless they do not even flee. You shall die a thousand deaths for this. You shall be

a lesson for every slave in Tiran's wide empire!"

* * *

THE two earth men from New York introduced themselves to Brack and Andy as Lee Jonklin and Henry Arnholm. Both were engineers, physicists, held several degrees. Both had worked on the atomic bomb during the intense United States development of the atomic fission of uranium and of the metals for the bomb. Both had concealed their identity after the bomb had become a fact in order to enjoy freedom—erasing their records from the secret service rolls by moving to new locations before the lid of governmental caution and fear had clamped down, making them virtual prisoners—as they had foreseen. Both had changed their names—turned to other work to avoid the personal control of their lives they knew that an attempt to keep the bomb plans long secret would mean for them. It was in this search for new work of a different nature they had fallen into Ru-Non's and Nake's net. They would have been valuable men for old Ben Uniatty's plans, Brack mused.

"Can you build such a bomb?" asked Brack—somewhat fearfully, for much hinged on their ability to do that job right.

The two men looked at each other, they laughed, looked around at empty space stretching forever on all sides, and the tall Lee Jonklin said: "We are so used to keeping our lips buttoned on that particular fact that we have a hard time saying it. But the truth is, we *can* build an atomic bomb!"

"Well, that is exactly why Andy and I picked you two strangers to escape. If you had not known how to build a complete atomic bomb, we would not have even attempted an escape. We are looking for a race in space—a group of a dozen heavy planets on the

rims of Tiran's space empire—whom the Tirans mean to strike; to war on with these same homhs. We meant to take you to them—you can guess the rest. To get a good poke at those Tiran fish-faced women would do you good, eh!"

"Let's get that water!" Henry Arnholm, his short legs moving with a comic rapidity, started off down the corridor, picking up a bucket from a cabin door as he passed. Lee laughed. "One of those women gave Henry a good beating for saying he had seen better washing dishes in the automat. She read his mind with a portable ray she was carrying—a little gadget, you know, and did she hurn up! She took it out on his hack with a whip. He was right, at that. I'd as lief embrace a dead mermaid as that Ru-Non and some of the others." Brack smiled, and they spread out on the search for water through the great ship. Meanwhile, Andy, who was not being careless with anybody's freedom anymore, sat down at the bridge ray and swept the view-ray penetray through the whole ship, checking each still unconscious Tiran and giving each a dose of the high-voltage sleep-ray. Then he picked up a coil of rope and set off to hind each one of them, in case he should forget they had dangerous passengers.

Several gallons of water served to start the great drive dynamos humming the jets to shooting their grey atomized steam, shot with the flames of partial disintegration, out to the rear again. A slight acceleration gave them a sense of orientation, and the gravity devices went back into operation, making their feet stay on the floor. Their world was coming right again. Just how they would have found their way again to the borders of the Tiran space empire, and then found that point in

space that was the Divi race's home, they would never learn; for even as they swung, searching for some familiar aspect of the stars to orient themselves by, a tiny ship shot alongside the slowly spinning, turning leviathan, Brack was quite unaware there was anyone within miles, until a ray reached out from the tiny ship and carried a voice of thunder into his ears.

"Speak out, and declare your identity or we will disintegrate you—you will become the ash of ashes, Tiran slaves, devil's dupes."

BRACK looked up from his study of the peculiar alien stars to see before him the projected face of a tiny, elfin creature.

Brack exclaimed: "Well, I've heard of them all me life, hut I never expected to see the 'little people', Leprechauns—what he you anyway, man of might?"

Brack's whimsical surprise was not pleasing to the tiny creature whose face was projected before him. "Stop your ancient junk—you insolential rogue. We are hoarding of you!"

Brack, nothing loath, and very much relieved to find a living mind about who at least had a destination and knew how to get there, slid the great drive lever to neutral—and the *Darkspear* ceased her slow return to cruising momentum.

The tiny ship shot out a magnetic grapple and the tiny men, seeming to run not more than two feet high, walked carelessly across the cable stretching between the two ships, enter the air lock as Brack turned the air pumps that released the vacuum's grip.

The tiny men filed into the vast Elder ship. "Devils Tiranian, how came you to penetrate the Freyan spaces to this ultra-special sacredity?"

Brack looked questioningly at Andy—this peculiar tongue, so familiar yet so utterly alien? Andy said:

"This is even better than the Divi, Brack, they are Freyans. The Tiranians fear them like they fear God's hand in the flesh! We can work with them on the bomb, surprise the Tiranians on their way to the Divi—and among these Freyans there is no chance of spies letting the Tiranians in on it, for certainly there are no spies among them—they would not be the right size!"

"It could be, but what are they saying? We've got to get along with them."

Andy stepped forward, bowed before the little gorgeousness of the gnome-like leader.

"Ob, Freyan, we are lost like sheep without shepherds, we know not what has driven us here. We fearfully fled from the Devils Tiranian; and our ship has cast us unconscious—where we know not. We have little knowledge of your ways, but we crave speech with those of you who can speak our tongue. We have much to discuss—and we bring Tiranian women as prisoners, as you can see."

Andy flung open a stateroom within which lay a bound Tiran warrior woman, who cursed and struggled at sight of them.

The Freyan smiled widely at the furious face of the Tiranian, and turned to Andy, a smile of vastly different import on his face.

"You strangers of 'what-spaces' be inherently opposed to the essential vapidity of the Tiranian under-ego, aye! I see!"

"That's the general idea, O mighty Freyanian."

"Some lingo," Lee Jonklin winked at Brack.

Brack nodded. "Surprisingly the

same language, I find. It is always remarkable to see how the tongue of the Elder race has persisted in all space where they touched." Brack said gravely. "You can hear it in most earth languages, though earth men have been out of contact with each other and with space for so many centuries of darkness that colloquialisms have nearly drowned out the ancient source of words. Here we strike a purer English than English—the 'mother' of English.

"Not their real tongue, though, Brack," Andy corrected Brack. "They are *trying* to speak our tongue. Their *own* is not understandable. I'll ask him to shoot some of it at you."

"OH, leader of these who guard here from the Tiranians, speak your mother tongue that these strangers may bear it."

"Strangeriana, mu tonga ess a Essentialiality ess basicality of diminutive rootnesses identity ess, but time on and on has varied all chainedness of relationality into complexum un mentality morass!"

"I see. Some of the ancient Elder symbols I know by sight, but not by sound very well, the records are so much thought."

The little man gestured "whimsicality". "Time on, we speak on. These latterday tonga, heterogeneity of nonconcordances, eh?"

With the little chief standing on the bridge watchfully behind them, they steered the great *Darkspear* after the homing flight of the tiny ship of the Freyanania.

After a flight of some hours at top speed the little man pointed to a belt of tiny green asteroids strung across the sky like emeralds on a string, swinging round a small but very brilliant white sun.

Brack, who was something of a col-

lector of the legends and stories of the underworld peoples, knew that these tiny Freyans must somehow be connected with the stories of the "little people" of the earth-caverns, and a great interest, a curiosity as to their tiny green worlds arose in him. For the legends of the "little people" had described them as wonder-workers of the first magnitude—as masters of the ancient's arts.

CHAPTER VII

THE Tirans had a kind of judicial system, and Bill and Nita found themselves waiting in a cell for a hearing by a police official. That it would be perfunctory and that the sentence would be death, Bill had not the slightest doubt, for he had seen enough of the Tiran women to know they thought little of a slave's life; would not hesitate to make an example of them even if their innocence was obvious. And it was far from obvious! Bill sat figuring out a defense which he doubted he would have a chance to present.

They had not long to wait. Came striding Altor, whom Bill had met when she came down into the hold of the *Darkspear*, and another Tiran officer, their short kilts crisp, bright plaids in the blue light, their side-arms glittering, their eyes straight ahead. The Tirans were horn soldiers.

"Oh, here they are. The two murderers who are here but one night when they find a way to murder a woman who bought them but to keep the young couple together. Poor old Divnani, to die so of a kindness. Her soft heart . . ."

"We had nothing to do with her death! She was very good to us. Why should we want to harm her who had proved herself kind among so many who proved otherwise?" Bill broke into the talk of the two women. "Altor, I

remember you when you came down into the slave hold to see old Uniaty—you should know enough about us to know we didn't do it."

"I have little doubt of your innocence—you look like a couple of innocents of the first water, anyway. But there have been quite a number of deaths of high-born Tiran women, recently, and they had to catch someone—and you were very handy." Altor looked at them amusedly—and Bill wondered whether she, too, was as heartless and cold as the other amazons.

Altor had something on her mind, Bill decided. She beckoned to the prison guard.

"Open the door, I would have a little private speech with the prisoners."

"But, your honorable sub-commander Altor—these prisoners are charged with murder. It is forbidden to have speech with them."

Altor looked the man in the eye. "It might pay you to be a little more observant of your own welfare and a little less of the formalities of the injustice you profess to uphold. You know as well as I that these two are as innocent as I of the murder of their mistress. They had been here but a few days—I knew them on the ship."

"The matter is in your hands, highness. If you insist, I am not the man to say nay to the chief officer of Ru-Non, who is well known for . . ."

The man quailed before Altor's steely eyes, and flung open the cell, locking it after she entered. Altor came at once to the point.

"I have it on pretty good authority that old Ben Uniaty is over ninety years old. Yet he looks but fifty or so, and is as active and strong as a man of forty. It is whispered among the other captives from Ontal that Ben has some secret of defeating age. I want that secret! Ru-Non has heard the rumor,

has made Ben her personal prisoner, and intends to get it for herself. I may never get it from her, then again I may be given the use of the secret. Her friendships and kindnesses are as unpredictable as her hatreds and cruelty. But I do not wish to take chances. Has Ben such a secret?"

BILL looked gravely into Altor's eyes.

Thinking swiftly, Bill realized there would be no advantage in denying the fact that Ben had found a way of fighting age successfully. And there would be a distinct advantage in telling her the truth, as he then had something with which to bargain with Altor—something she wanted for which she might be able to use her influence in their behalf. So Bill answered without perceptible hesitation. "Yes, Ben Uniaty has a method of casting off age and becoming young again. He would be now a young man, but he was fifty before he found the secret—and the method only keeps a man at the age in which he begins using the method."

"I want that method, you earth scum! I want it! Tell me what it is?"

"First, my beautiful, Altor, smile! Then promise to release us from this threat of being sentenced to death for a murder you know well we had nothing to do in committing. We are innocent."

"I will do what I can for you. But give me the secret."

"You should not be so forward, Altor. If we told you now, what would the hold be, where would our promise go? Payment will be given on receipt of the goods—for we not only want freedom, we want transportation to a country where we will not be slaves, where we will not be beaten; and release—freedom. When we have freedom, Altor—then we will tell you how to remain as young as we appear to be. We are both

quite a few years older than we look, you know. You should take that into account in your attempts to out-think us."

Altor considered the very young appearing couple appraisingly. A great idea came then to her—as she realized the fact that she was dealing with people mentally superior as well as vastly more experienced than herself. Slowly a humble expression stole over her face, and she bowed her head a little, and one could see that even in Altor something of the little girl still remained and meant well by the world.

"I will get you released from these charges. Then I will buy you from the owners. Then I will take you to the borders of the Divi planets and set you adrift in a life boat. From there you will be able to make your way to the Divi. There you should be well able to get along. But before you go, you must then give me the secret."

"Of course, how else should we win your kindness? Also, Altor, it might be wise to buy us from the owners of the Divnani's heirs property, whoever they may be, before you get our sentence and trial canceled as we will be much cheaper while we are going to be killed than when he finds out you have had the charges canceled."

Altor paused as she left the cage of iron, and spoke rather brusquely to the guard. "I shall hold you personally responsible if anything happens to these people. They have a vast value in my eyes, and will one day be my property."

The guard bowed from the waist. "I shall take good care of your future property, O renowned Altor."

After her long strides and the jingle of her war harness had faded from sound down the corridor, the guard turned to Bill and Nita.

"Now what have you got that she wants?"

"Plenty," answered Bill shortly.

"Well, I don't want her on my tail, so if anyone else starts kicking you around yell good and loud for Jan Sobon."

Bill grinned. "We'll yell, and he glad. Let's hope we don't have to."

"Chances are you will. Your wife is good looking, and there are quite a lot of male guards. Some of the women just love to give a good looking guy like you a beating, too. And it would look so noble to beat you who have killed a noble of the Tiran upper caste—get me? Some of 'em may try it. Yell, the minute anybody threatens to get nasty. If anybody has the guts to save you, Altor has. Nobody ever accused her of lack of spine, but until she does find a way you are as good as dead."

THE days dragged on for Bill and Nita and Bill kept thinking of the secret of immortality via the teleport method^a being in Tirane hands—it would mean that in time they would engulf all the other mortal races of space, as their wisdom leaped ahead of the

^aTeleport method of immortality. The Elder race had discovered several methods of defeating age. One was their teleport machines—a device which was described in the companion story "The Masked World". The teleport mech subjected matter to force rays so strong the matter flowed along the ray, was reassembled by the machine instantaneously at the beam focus—which focus was a repetition of the field pattern controlled in the sending cabinet by the matter in the cabinet. The mech had a magnetic screen excluding all but certain materials, and in some types of teleport mech this magnetic screen was adjusted to admit only the organic material of flesh and bone—to exclude all else. A teleportation of living people by this machine excluded the radio-active, accumulative poisons that are the main cause of age, and the result was a young body for an old one. The teleport was a delicate, intricate device, required an expert in its operation—which old Ben Uniaty was—and from whom Bill and Nita had received their training. Hence the secret alone was of no use without the years of training in properly focusing and adjusting the mech—hence the persons of Ben, Bill and Nita were necessary and invaluable to the Tirans, Ru-Non and Altor.—Author.

other races whose wisdom dies with the body. But Bill saw no way to keep it from them and still keep his life. When he looked at Nita, he realized he could not worry that much about posterity; he could not be that heroic for any supposed evil. There were too many factors; if they used it generally and stayed young they would in time learn to be less evil.

Nita cut his worries short. "Don't worry so about it. If Altor carries out her part in the bargain, and we give it to the Divi who are enemies of the Tirans, they will automatically check each other's expansion, and the evil will will not be any greater than if they did not know anything. It is better that such things should live in many minds than not to live at all in any mind. You should see that, Bill!"

Daily the lower class Tirans came to peer at Bill and Nita, the two who had murdered a high class Tiran and still lived, and the day when they were supposed to be tried and executed was now long past. Then came the day when a party of Tiran nohlewomen arrived, and they were drunk. They peered through the darkness in the cell and one tall, space-burned female, her hurly body aglitter with metal ornaments, and with a long dis-ray hung on each hip, her leather harness chased with figures of the outlandish animals of Tiran, cried: "Here they are; two slaves who flaunt their murder of our highest and our best, Divnani, the kindest, most worthy of all the Tiran women! They murdered her in cold blood—and yet they live on, the trial is put off! Who runs Tirania—the rulers or the slaves?"

A wiry, blond female beside her echoed: "It looks as though the slaves are running a hit too much of the place to suit me!"

Bill shouted above their voices, which broke into vituperation and the use of

many words strange to him, for they were from a ship from another planet—and there were several varieties of the Tiran tongue.

"You have no real idea that we murdered that sweet old lady. Why don't you interview her heirs; they are the most probable guilty? Nita and I found her bleeding were taking care of her, not fleeing, not trying to evade anything. The guard said we did it and let the old lady die while he took us to jail. She might not have died if anyone had sense enough to get her a doctor—"

The tallest warrior took out her side-arm dis-tubes holding one in each hand, preparing to shoot them through the bars, and Bill and Nita both started shouting at the top of their voices. "Jan Sobon! They are killing us—Jan Sobon!"

The guard came running from the little office at the end of the corridor of black bars—and the half dozen drunken warrior women took to their heels, suddenly turning it into a lark, laughing and fleeing in panic from the fat Jan Sobon. But the tall red-faced amazon turned her two side weapons upon Jan. Jan put up his hands.

"You don't really intend to do anything about anything we do, do you, my little man?" Two of the women returned, backing up the tall one.

JAN stopped, tried to talk his way out. "Look here, soldiers, quit the rough stuff. I've got a job to do. I don't come up when you're guarding your ship and try to run off with the cargo, do I? Besides Altor said these two were innocent, and she would get the real killer or get the charges killed. If she stands up for them it's enough for me. You women are always afraid the slaves are getting too forward. If you ask me, they ain't forward enough for some of you. Now go on, and leave me and

these two young people alone. We both tend to our business. These young'ns were tending the old lady after she was attacked and some dumb bunny like you came along and arrested them. They may kill them for the murder of Divnani, but if you knew the Divnani you'd know ding danged well no slave would ever kill the Divnani—she was always fighting for their rights. She was their best friend. The heirs killed her—her own daughter more likely."

The blond amazon suddenly saw a light, and started explaining:

"Yeh, and who got us drunk and started us down here? Divnani's step-daughter, the one she kicked out years ago. Pretending she loved her mother and all that stuff and somebody ought to see justice done. Just for the hell of it, let's get to the bottom of this, sober up, and we'll find out where Nadiani was at the time of the murder. Ten to one she was in her mother's house for the first time in ten years and hasn't been there since the murder. What'll you bet? Let's pin it on the rotten . . . Eh, Marty, what say we do it right? There is such a thing as being a little too dirty, and mother-killing is one little step too far for me."

"Could be," the tall, space-burned red-haired Marty considered, and then shoved her long dis-tubes back in their holsters. "We'll see, my birds in the cage. If that rat did it—you won't have to worry. Some of the Tirans ain't as bad as the slaves paint 'em. We may do you two a favor at that."

"We may do you one some time, too. I wish you luck, if you are actually going to look for the real killer. Death is so permanent. We—Nita and I—would do a lot of appreciating if you could free us."

The tall, suddenly human Tiran woman thrust a hand through the bars, patted Nita's head with a motherly

gesture, turned and the soldiers trooped off, quiet and sober, now.

Jan Sobon leaned against the bars, mopping his forehead. "You never can tell. I've seen them women grow up, and I would swear there wasn't a human, kind hair in their heads. But they *think* they are human—and when it touched a mother the only really human trait in the Tiran came out. They really love their mothers—it beats all!"

Bill grinned at the frank Jan. "Where did your people come from, Jan Sobon, that you have such a clear view of the traits of the Tirani?"

"Me? If I told you, you wouldn't know any more than you do now. I never said a word." And Jan Sobon winked at them sagely. "I'm a Tiran male of the best kind. We can see our women for what they are, see!"

"Sure, sure." But Bill knew better; wondered just where the man came from, but space was large, there were many races, and he knew little of it. "It is curious that their most human trait comes out in their reverence for motherhood. A woman is still a woman, no matter how many male attributes you deck her with."

"Yeh, a woman is still wonderful, curious and mule-headed, no matter how much they act like a man."

Nita who had been listening, broke in. "And a man is still the most egotistic of all creatures, even though in Tirana the women think they have usurped the privilege of thinking themselves the dominate sex."

Jan clapped his hand to his head in mock pain. "You win, darling. Women are women and men are men, and it's a wonderful idea, and they are both too dumb to figure out why they are different. And it is I that thinks you are a very sweet edition of the sex yourself—pardon your husband's presence, if I may."

"She is that, Jan, the best of her sex."

Nita flushed, retired to the rear of the cell in the shadow. Jan returned to his cubby-hole and the hours dragged on. Death still awaited the official word to come to visit them.

CHAPTER VIII

BACK on the *Darkspear* (as Brack described it later) the Freyan introduced himself to us as the Tor of Veynania, whatever that was. We figured he was a chief or elected leader of a group of a certain number of people, who had been allotted a certain amount of ground, and that they had built a place called "Veynania," and that he was thus the "Tor" of Veynania. He pointed now down and to the left of the course the *Darkspear* was taking.

"The home of we it is, Veynania."

We saw that he meant a glittering little city topping the others on the tiny globe. But we were not landing in Veynania. It was toward a much larger little planet, looking quite imposing in contrast to the other tiny worlds, that the *Darkspear* was heading.

The Tor pointed to it. "Freyanania, the incomparable. The light of all dark-nesses—the wonder of all spaces."

Why the Freyans hung their speech with such a lot of super-words, I couldn't figure unless the habit of making all they thought of attractive by a kind of illusional distortion of the truth. But I had much to learn, for as the *Darkspear* nosed down to a landing beside the Freyan ship in the sea of Freyanania, I saw that there were indeed wonders on this little planet, which had quite a strong gravity, for as we shut off the gravs and all the motors of the *Darkspear*, the load on our feet decreased but little. One of these wonders was the coast line, which was not forest or hills or beach, but solid glass, the handiwork

of man, colored with brilliant, prismatic hues, shifting in the light, so that what one saw there was a shifting, evanescent scene of magic, a mirage of tiny homes of solid glass, forming the whole coastline as far as the eye could see, and apparently poured into place as molten glass—fixed there forever. The homes of the Freyans were the soil of Freyanania, and the soil was cast glass. Shaped into place, the glass was rounded, spired into a Christmas-tree-ornament's complexity of glittering prismaticism—and each protuberance, set with rails and stairs of chrome-bright metal, was a home. It was as if a factory of Xmas tree ornaments had operated at full speed for centuries, and lined the whole shore of a sea with piles of the bright things. Xmas balls—Freyan homes. Yet none of the brightness was tawdry or ill conceived, but rather served to express the greatness of certain musics that glitter with ornamentation yet are grand in over-all design, the ornamentation had an over-all ruling plan. And each glittering facet of bright glass or glittering metal served to accentuate the intricate, fascinating beauty of the whole. I gasped my wonder to the Tor, who smiled. "It is the work of many, many centuries of a people building homes for themselves in harmony with each other's lives."

Over the sea waves skipped innumerable little sailboats, canoes, and similar craft, some motored, some not. These collected around the two ships, and the huge *Darkspear* aroused a chatter of questions. As we huge captives strode out to take our place in the tiny boats, none of which were big enough to carry more than one of us at a time as passenger, they all squealed—and I saw that most of them were girls, beautiful little fairy-like creatures, playing on the water. We made a long procession of boats, each of us passenger in one tiny

hull, and around the parade sculled or darted or sailed the cockleshells of squealing, laughing young Freyans, making sport of the bringing home of the "bacon" by the Tor of Veynania.

OVER the city, as we drew near the shore line, boomed suddenly a great gong, and I had no doubt some kind of a council was being summoned together.

We were led through the tiny streets, a procession of Gullivers on their way to see the Lilliputian monarch—but in this case he was an elected ruler, I found.

We did not try to enter the palace, but squatted outside of the intricate fairy wonder of the glass like minarets and endless shining towers, in a kind of park. We ruined the shrubbery, but for the most part the trees were full size, and were something to cling to in this land of diminution of the natural scale of things.

We had little to say in the conference (but were allowed to hear by means of a sound system), much less than I would have liked, but my message of the atomic weapon, and the preparation of the Tirans for war—had a tumultuous effect. The proceedings were as noisy as if full-sized people were having a free-for-all inside the palace.

When things quieted down, the whole assembly filed out in a long line, the ruler at their head. He was dressed in a skin-tight suit of spun glass, and about the neck of a gold chain hung a sunburst of gold upon his breast.

The line advanced directly to where Brack and Lee Conklin, Henry Arholm and Andy Miller were sitting. Gravely the ruler walked up to our great size (we were more than three times his height, and our relative bulk was probably ten or more times a Freyan's—who must have weighed about

twenty pounds at most). From his neck he took the great sunburst—which must have been some decoration conferred upon him in the past. His speech was short and to the point.

"The Freyanania have done many things of vast import. But you, my friend, who have brought us this atomic explosion, so that the evil Tiranian devils might not use it upon our good friend, the Divianania; you who have managed to escape from a place no slave ever escapes from—the city of Tiran rule; who have brought that great ship the *Darkspear* here single-handed with great skill—with your two friends who know how to build these terrible weapons—

"Ah, you have this day brought life to a nation close to death. We, of the Freyanania, shall endeavor to show you all the time you are with us that the Freyans are not cold-hearted to their friends—and you may always remember that the Freyanania were worthy of your saving, that you made no mistake. The Tirans would have exterminated us in time with that weapon. Sooner or later they would have stolen close and blown our little universe to nothing."

Such was his meaning as translated from his queer other-world English.

I accepted the great star of gold, for I did not know how to refuse—and they set to work at once to build us homes with them. Meanwhile the Ruler himself took the two atom men to the various factories which would manufacture the bomb parts and work was started on the bombs. The rockets to bear them in space, and the steering devices—which in such bombs must be duplicate or triplicate to insure no error. The Freyanania had realized what we had brought them. They had worked upon the problem, but it had eluded their scientist as it had the technicals of earth for so long. They just hadn't in-

vented the cyclotron, and I suspected their science lay along other lines of development than the electronic fields which had brought forth the bomb.

That nation of little giants went to work with a vengeance, and they worked us just as hard. My eyes glittered with the thrill of just thinking of the industry and canny ability of these diminutive people.

They rushed us from factory to factory and we spent every waking hour going over conversion plans so that they might use their present equipment to create uranium piles; heavy water; rocket motors to take the bombs where they would do the most good; the delicate magnetic devices to guide the rockets toward an evasive target; the thousand and one details of the manufacture of an article that took the whole United States three and a half years. They proposed to make the bombs, rockets to carry them, controlling devices, the whole works in a month—and, by working the heads off Lee Conklin and Henry Arnholm, they made it.

THAT was a month like no other in my life. All my life I have had plans, plans that were feasible—if I had had the men to carry them out. Plans that were but dreams because life on earth is so cumbersome in so many ways: thought is hampered by its incommunicable nature, hampered by the ever-secrecy of the two opposed worlds (which are the subterraneans fearing to let the upper-world advance), well, you know how *life* is there. But these Freyanania! The step between a plan and a fact, between a dream and its actual creation in matter, has been made so simple, so possible, that it is like heaven to an inventive mind. If you conceive a plan for some device, no matter how impossible it may seem, some Freyan bears your thought, puts it all down on

thought record, refers it to the engineering department who go into a huddle on it—and the next day but one, you find yourself with a working model of a device you had only dreamed of, and then forgotten!

A good hundred such things they created for me, which I had been thinking of all my life, and never finding a way to make into actuality. Thus it was with the atom bomb, they not only created a perfect and devastating bomb, but a perfect carrier for the bomb, a rocket equipped with well-nigh human intelligence that would seek out the target at which it was pointed no matter what impossible evasive maneuvers the target may go through.

The days of that month flew by and they were crammed more full of work and creative fulfillment than any days of my life.

Then came the news we were waiting for. Down toward the cleared landing space on the little sea of Freyanmer came a screaming war-rocket, a single-passenger space ship they use for messenger service. It travels at impossible speeds between their worlds and its outposts, which are wide flung. Their spies had reported the Tiran fleet aloft and heading toward the Divi area of space.

I thought I had seen activity before, but now the Freyans came out of their work-a-day pace and really went to work. From our underground hangars, where they had been preparing them since they knew conflict was unescapable, came the sleek little war-ships; pocket-space-ships of unbelievable power, and into their holds went the cargo of terrible explosive power—the atomic bomb rockets. Steadily, all day and all night, from every little world, the war-ships took off, one after the other, and one could not look up without seeing a long line of the shining space ships fading away into the distance. The Frey-

ans were not going to stand by and see the friendly worlds of the Divi destroyed by their enemies the Tirans. For they knew that if success attended the Tirans, it would not be long before the same fleet would head toward the Freyan's homes. They preferred to keep the war at as great a distance as possible.

So it was that I was invited by the ruler, the little Dagnania, the man who had presented me with the great gold star for bringing the atomic experts from from earth to him—to accompany him on his own ship and observe the battle "from a safe distance," he assured me, "if any distance should prove safe in a war of atomic bombs."

CHAPTER IX

BILL and Nita sat in their cells for two weeks, expecting every day to be their last. They did not hear from Marty, the tall impulsive Tiran who had promised to hunt down the daughter of Divnani and make her confess her crime. They did not hear from Altor, who had promised to find a way securing their release. Then, as they lay on their pallets during the sleep period, as the mid-part of that period when most life of the Tirans is quiet (and no one wakes but those who must, the guards and sentinels) came a familiar military step, the hard, evenly spaced heel sounds of someone they thought they must know. Bill sat up, watching for the passing of this person. The steps neared, stopped outside in the darkness—then a tiny needle beam of light came into the cell, flashed briefly upon each of their faces, blinked out. A key grated in the lock, the door swung open and the harsh voice of Ru-Non grated on their ears. A natural repugnance, born of their fear of she who had been the cause of their

presence in this inhospitable life—made them hesitate as she said:

"Come, I have arranged your escape!"

They sat there, rubbing the sleep out of their eyes, trying to figure why Ru-Non of all people, should have bothered to "arrange an escape" for them, two slaves she seemed to despise. "Come, there is no time to waste on explanations. I have bribed the guards, and you are to come with me. Move your stumps, you wretches, or I'll give you something to make them move."

"What would you help us for? I don't get it, Ru-Non."

"If you must have it, Old Ben Uniatty has promised me the secret, if I get you two and Tim free and bring you to him. When he has given me the secret, I will set you all down where you can reach the Divi or the Freyans—such is the bargain."

"Ru-Non, you will never keep such a bargain. We know too much for you to let enemies get hold of us."

"That may be. Come along. You are to die tomorrow without any more delay. Such is the official order, and that is why I am here. It is your last chance. Are you coming?"

"Come on, Nita. It is better than rotting here."

Nita stumbled to her feet, and together they followed Ru-Non's long strides down the dim corridors of the prison. Into a waiting Xonton—a floating, degravitized half-globe—they piled after her, and she set it speeding down the center of the round way-tube toward the surface of Tirania.

The Xonton emerged on the surface, sped over the water, and sat down on the deck of a ship similar to the *Dark-spear*, though larger. They stepped out, and Ru-Non called a sentry, saying: "Get Jon Karka to take the car back and leave it at 2231 Xtine, the garage

where I rented the thing. He is to do so at once, and if anyone asks him any questions, he knows nothing."

Then she strode off, and Bill and Nita followed her to her quarters.

WITHIN the cabin Nita flung herself into the arms of Old Ben, whose smile was threatening to crack his face, which looked as if it had not smiled recently for other reasons. Bill pumped his hands flinging questions at him.

"You old wizard, how did you do it? I have been expecting to wake up in Heaven so long that I'm not sure this isn't it!"

"It isn't heaven, but we may make it to reach something comparably heaven to what we have all been enduring. Ru-Non has found that I can teach her things of value, things she can't learn without my hands to help her; things my brain alone can't teach her—through the telaug. For such teaching she has guaranteed to set us down where we may reach freedom and a new life. That is all."

"She must have taken quite a risk, rescuing us from prison?"

"I doubt it; she is a pretty powerful personage in the city."

It was a more pleasant evening than they had expected. But morning and the sun of the surface brought also news that Ru-Non had not expected—or had she? War!

The Tiran fleet was ordered into space, the whole works; war was declared! They didn't declare war by telling the Divi—they just loaded up the ships with atom bombs and took off—and reluctantly Ru-Non obeyed the order to take to space in formation with the rest of the war-fleet. Technically and in time of peace Ru-Non was a privateer, but her articles included compulsory obedience in time of war—

and a state of war had been declared. Soon they were in space, surrounded by the great, speeding, ancient war-ships of a race who had more sense than to wage wars, yet had built the best war-ships in the known universe.

Looking out the port of their chamber, where Ru-Non had locked them, Bill and Nita and Ben stood in awe—not of the Tirans, but of the immense ability of the antique race who had built those ships that stretched in unbroken formation right and left and back as far as the eye could see—ships whose unscarred metal hulls gleamed with a polishing of recent date—which might have been manufactured yesterday for all the marks of time upon them. Only a slight mottling effect told of the time gone by.

"All that mighty product of the idealistic efforts of a noble race—why did they leave it all behind them? Where did they go? That they could leave it to these stupid, swell-headed ignoramuses—the Tirans. It is always the greatest puzzle to me where the Elder race went and why they went there?"

Nita answered Bill's question:

"I found a small clue or two in the old writings. I was just getting on the trail of some writings that told of their last days on earth; a book called 'MANDARK' that told of the 'EXODUS,' was mentioned in their great 'BOOK OF THE CROSS'—the T symbol of growth, you know?"

"Yes," answered Ben, "it has always amused me that the early Christians adopted the Cross and the story of the infallible God from their records of the ancient 'Book of the Cross'—which was in truth not a cross but a T. The whole thing was so much greater than the Bible and the Cross, it is too bad they do not have the true story of the past, instead of wasting so many efforts

on a later distortion of the true history of the Elder race. As if the whole Elder race was but one god; it is too bad. Their ruler was so great a god, he should be better known!"

"THE traces I found said they left all these machines and ships because they were infected with radio-activity—were deadly to life; and the radio-activity from the sun was their reason why they migrated from earth. These Tirans have so many ships because, here on these planets—which were before then cold, having no sun—they abandoned all their old, infected ships and built a new fleet, entire, to voyage far, far into dark space where no sun's rays can ever reach them. The radio-activity they knew to be the cause of age, and they abandoned everything for they had a horror of it, as we do of leprosy."

"Radio-activity is terribly infectious, and spreads to everything it touches. That is true!"

Ben commented: "You have but to bring a radio-active object into a room for awhile, and then take it out. Radio-activity can be detected in the room for many days, even weeks, afterward. It may be that an immortal would have to be as wary of it as were the Atlans and Titans of the Elder race."

Bill broke into Nita's and Ben's deep introspective conversation. "Your studies are interesting, but tell me, just what is this war going to mean to Ru-Non's plans for us? Why does she take us along?"

"I have told Ru-Non of my use of the antique teleport mch to transport the body, and thus leave behind alien substances. I also told her that the machine transported only those parts of the body which were flesh and bone, leaving behind all such things as radio-active particles of metal, alien poison-

ous matter such as selenium and lead—told her it could be used as a treatment for age which was so effective as to prolong a man's life ten to twenty times."

"But why, Ben? Why does she need you or us?"

"She does not know how to use a teleport mech—there are very few of them you know—and the government of the Tirans has forbidden their use, as so many were injured in a catastrophe when some fool left one 'on' and teleported the whole underpinning of a city full of Tirans into space! She needs me to show her how to focus, how to care for all the little details of its operation. She can read it in her telaug pictures of my mind—but she could not get it from such things in such a way she could use it. There is no substitute for experience, and she knows that!"

"And you insisted on us as the price of your assistance?"

"Sure, I wanted freedom and what is freedom without friends. You two and Tim and Brack are my home, my freedom."

"Thanks, Ben. You are the best father we ever had—both being raised by strangers, you know."

"These ships are carrying atomic bombs—are they not, Ben?" Nita's face was quizzical. She was a little frightened at the thought of all that power of death beneath their feet in the hold.

"Yes, Nita. We carry, now, death to a whole race of people, a people inhabiting some dozen or more planets. Very large planets, densely populated, are to be completely wiped out by these murderous Tirans. It is a terrible thing to know, to have a part in committing such a vast crime, even if an unwilling part as is our own."

"You didn't help them with bombs, not the manufacture?"

"No, they got all the plans over their

spy rays on the American bomb plants—but we are here. We are not going to try to explode the bombs before they kill a billion—wipe out whole cities—are we?"

"That is hard to do. We can only pray—and I am going to pray."

"You don't believe in any ordinary God, that I ever heard you mention, Nita?"

"I believe in the essential Mother of All, on earth I called her Mother Earth, out here I will call her mother Universe—and I will pray."

As Nita knelt by her bunk, Bill and the old grey head of Ben Uniarty were bowed in silent communion with their own idea of what the great beneficent power of nature might be.

Terribly, resistlessly, the vast fleet of the Tirans rushed on and on into the night of space, bearing death for a whole race of men.

CHAPTER X

BRACK'S story of the Freyan defense of the Divians, as he told it later to Bill, went as follows:

We boarded the little Freyan battle cruiser, and believe me, they didn't build for any six-foot men. They could barely find a place for us to lie down, but a Freyan tech brought a visi-screen mech of the diminutive models they have copied from the huge sized antique models, installed it in the big double cabin which was just large enough for us to lie down in.

It took him about two minutes to run the wires and plug it in for us and we were watching a panorama of the most wonderful little war fleet ever in existence, I'll bet. And packing a punch now second to nothing in space. I could not believe the Tirans, no matter what plans they brought from earth, could have built anything like the automatic

self-steering rocket the Freyans had built to carry the atomic bomb to its target. That device was doom on a lightning bolt—fast. In space, with no atmospheric or gravity drag, I'll bet that thing would get up a speed a light ray would get discouraged about.

Stretched out on the screen, as far as the penetrative ray would reach, as far as could travel in time to be seen with nearby objects, was a solid phalanx of little space ships, heading for the Divi area.

They intended to surprise the Tiran fleet, and believe me they had been careful to let no hint of unusual activity get noised about. If they had warned the Divi of what was coming, it made one more loophole, and a mighty big one, for the Tirans to realize what was up. And the cocky little men decided that the lesser risk for all concerned was to let the Divians wait in ignorance. They knew what they were doing, and it only serves to show the unusual and independent nature of their minds that they chose such a course than the more natural one of warning the Divi and trusting to luck that the Divi could keep a secret from the Tirans. They knew that was nigh impossible, for the Tiran spy system was so wide, so numerous that little escaped them. But they knew of no traitorous Freyans.

For a day and a night that endless fleet sped on, unbroken, endless; there was no way of knowing how many of them there were. When I asked the Dagnania, he told me a lot of words that meant millions or billions or only thousands, it was too much for me to change the Freyan numbers into English. Somehow it didn't matter, they knew what they were doing and I didn't.

Twice around the clock, and the formation broke up. We were alone in space. The intership communicators buzzed steadily. They were extending

an unbroken headge of ships between the Tiran areas and the Divi areas of space control. They settled down to wait, and I knew that their great long-range ray-eyes were sweeping endlessly up, down, across and back, so as not to miss the oncoming Tiran fleet. Those headstrong Amazon super-women were certainly walking into something!

Somehow a great elation filled me, for I knew that the Tiran nations were responsible for the age old secrecy on earth—had encouraged the underworld in their ancient policy of keeping the antique mech secret from the people of the surface. Merely to have a place to pick up slaves occasionally; merely to hold back one small world from becoming a rival; they held back the whole race of earth-men from proper development. But that was perhaps the least of their crimes; those crimes reaching back into the centuries; the endless conquering wars of the Tirans which had eliminated the male from his dominant position and left the Tirans a race of warrior women. There was little about the whole Amazon nation to cause one to pity the fate they were racing to meet.

THE tension mounted and mounted; and at last we saw—faint but unmistakable on the screen—tiny dots of light that marked the vanguard of the great Tiran fleet, the scouting squadrons of lighter ships racing ahead of the great main fleet.

The Freyans had extinguished all lights upon taking their position, and they lay silently, immovably, spread so wide that even if an obstacle ray located one of them the others would still be out of range of sight. On came the dots of light, unwavering, and presently the now discernibly wavering pulse of the jets causing the lights became evident—the fleet was in sight! Still the Freyans

waited; but I could hear, off in the ships nose, the intership signals buzzing, droning, and knew the Dagnania, the ruler of the notion as well as bere the supreme command, was calling in the outer horns of the great crescent of ships he had thrown as a protective bulwark around the Divi planets.

Now, behind the wavering lights that indicated the forerunners of the main fleet of the Tirans showed the vast pinpointed patterns; the formations of the main fleet of the Tirans. They filled the screen with a regular pin-point pattern; a counterpoint of racing death bearing down upon us. Still the Dagnania waited, still we lay silent and unseen, tiny wasps waiting to sting the great female, Tirania, to death—waiting for prey; tiny wasps invisible and deadly in the evernight of space.

Moments crept by painfully, and I could hear the buzzing of commands, of exhortation to hold fire till the command. He was certainly waiting for the last of them to get into range. I only hoped he could figure the extent of the blasts that were going to be released here in space; nervously wondered just what the effective range of an atom bomb might be in space with no air or gravity to cushion the blast.

The great, ancient ships of the Elder race, some thousand times the bulk of the tiny Freyan craft, were visible now on the ray screen, not as points of light, but as long, sparkling hulls, lit by the flare of their driver jets. Lit by a riding light on the bow to avoid collision with each other. They counted on their terrible, and, as they thought, unsuspected armament to offset the need for surprise. But they counted without the escape of three despised slaves from their pens in the auction chambers. I realized now how much had hung on the balance that night of our attempt at stealing a vast warship—and succeed-

ing.

Suddenly the diminutive, but mighty Dagnania barked one word—"NOO" (now) into the screen before him, and magically as though he were God himself, at the word, a tremendous line of unbroken jet-flares appeared; a line reaching out and out into the night as far as the powerful sight rays reached—and the lines converged toward the oncoming Tiran fleet, a vast wheel of death had suddenly blossomed with spokes of fire; lances of terrible power bearing down, down, toward the ships of the enemy. If I had known Ben Uniatty and Nita and Bill were aboard one of those ships with Ru-Non, it would not have been so thrilling, so satisfying a sight. The bomb torpedoes, manufactured so hastily by the little people, were performing apparently perfectly. At the sight of those oncoming projectiles appearing so magically out of the blackness ahead the mighty fleet of the Tiran's broke into a sudden display of fiery curves, inextricably intermingled—as apparently no prearranged evasive tactics had been practiced by the overconfident Amazons. Or perhaps the whole thing had been too quick, too sudden . . .

CHAPTER XI

ABOARD the ship of Ru-Non, Bill and Nita stood watching through the ports, which had been opened, as they expected soon to orbit around the first great planet of the Divi.

They saw, far off to the right from the utter blackness of space, a line of fire. Then another and another, until as far as they could see blossomed suddenly in the night an endless line of lances of fiery death all rushing irresistibly down upon them. Old Ben gave a short cry of exultation. "Brack has made good. I knew he would do it.

They are prepared! But . . ." he turned suddenly and placed his hand on Nita's soft hair. "Child, I fear that we shall all meet our death here on this ship within short minutes. If the work on those bomb-rockets is good work—and Brack is no fool—we are dead, right now."

Nita kissed him swiftly, saying, "Goodbye, my good friend." Then she turned and embraced Bill, trying to put a lifetime of love into a few seconds of impassioned, tender regret.

"Bill, this is the last kiss . . ."

"Nita, love has never wavered for us—goodbye—utterly beloved utterly worthy of love—goodbye."

The great ancient ship lurched suddenly under their feet as Ru-Non threw the great old hulk into violently evasive maneuvers, and the jets flamed bright as the ship swerved so violently the spurt of the jets could be seen from the ports. But ever relentlessly after flowered the fire of the rocket atomic bomb, nearer and nearer. The great ship was now fleeing directly away from the rocket, but the relentless magnetic scent of the automatic nose of the rocket kept it doggedly after, gaining, gaining . . .

Now to their ears came sound, such sound that the leaping of the violently thrown-about ship, struck by the terrible, far reaching force of the bomb explosions, seemed as nothing beside the agony of terrible concussion tearing at their ears! Nita fell to the rocking, reeling floor, her hands clasped about her bleeding ears, and Bill and Ben fell beside her, Bill managing to cover her body with his own. Still the terrible concussions went on and on, and the picture Bill glimpsed through the port was one of terrible, repeated fire-blossoms of such terrible brilliance that his eyes burned like wounds in his face—he did not look again.

Outside in the ever-night surround-

ing the peaceful, unsuspecting planets of the Divi, the night saw with startled, suddenly firelit eyes the vast, formidable, old God-built dreadnaughts of the fleet of the Tirans vanish; swift titanic explosion by swift relentless concussion as the fleet war-torpedoes caught up with the fleeing old ships. Even that impervious metal with which the Elder race had built was no match for the vast explosive force flame of the atomic bomb; and the ships, burst now into minute fragments, were but great, flaming dust clouds in the fire-shot dark. The deeds of the Tirans had at last borne their terrible fruit—and that night vengeance was atomic.

AT LAST the fire lessened, the night grew quiet, and was now but a great drifting whirl of glowing dust and gleaming red hot bits of metal. Outside the fiery ring of death that had closed upon the speeding might of the Tirans, waited the endless ring of tiny, triumphant, and somehow awe-inspiring Freyan ships, waited for yet one more Tiran ship to show its jet upon the quiet, star shot face of night. The waiting grew into an hour, and at last, the terrible deed glowing like fire in their minds, the little Freyans urned on the jets, and their trails were many joyous fireflies coming again toward home.

The ship on which were the Dagnani and Brack and Lee Conklin waited still; for scores of Freyan ships had remained. For "To a certane on the extent of the force of the explosion-on and to surveys-ion the nature of the metal damage and the completion of the mighty smallnesses of the fragmentation of the enemy ships—onnerstan?"

Brack nodded at the Dagnani's attempt at English, mentally agreeing that his use of it was more understandable than many who knew the language better, and mentally he made a resolve

to get on the wrong side, never, of these Freyans, for they made of a "job-on of work" such a "completionness."

So it was that Brack and the Dagnani cruised slowly about the area, still glowing, a great kind of nebulae reaching out of sight, and here and there could now be seen the undemolished hulk of a ship which had not been the recipient of a direct hit, but had been put out of commission by concussion, as Dagnani explained.

"The concussioniananity of the atomic unlocking had rendered any ship in the area inoperative by eliminating the on-impossibility of uninterrupted electric flows, by jarring loose all electric contact, by shaking the machinery out of alignment—by a thousand damages to the old hulls of the antique ships. The atomic bomb has at last shown the way to bursting asunder the heretofore unburstible metal of the Elder race."

Brack agreed, watching over the great screen to which he had focused the little screen of the cabin where they lay in their cramped quarters, Brack saw lying dead ahead the gleaming nose of an unburst bomb, now exhausted of fuel, or rendered inoperative by the "concussionianity."

Brack shouted at the Dagnani, pointing out the sudden danger upon which they were rushing—knowing the bomb was now, after their abuse in that terrible sunburst of atomic release of energies from a hundred thousand bombs, in all probability building up slowly the necessary chain reactions to set it off—and the Dagnani leaped to the controls and swerved the tiny ship in a short arc away from the bomb. As it receded into the dark the sudden arcing turn of the ship's nose and obstacle locator bearing the view-ray revealed to one side the lightless hulk of a great Tiran ship.

The bomb, now some thirty miles to

the rear, was suddenly touched by the destroying finger of the war-ray pointer beside Dagnani, and exploded with the terrible light-emitting flare which is characteristic of these terrible weapons. In that short flare of light, all-revealing and eye-searing as it was, Brack searched the great dark hulk beside which their ship was passing. And he saw the figures of the crew, strewn everywhere about the ship, the ports blasted open, the gaping wreck in which were now only frozen corpses. Something familiar about those corpses struck his eyes—an old white head, the dark hair of a girl streaming out on the deck, the young form of a man. Then the sudden light faded as swiftly as it had come, and the ship was far to the rear. But memory, intuition, the instinct of protection (what is it that causes miracles?), made Brack think of Bill Flores, of Nita and of old Ben Unlaty. Tears came unbidden to his eyes, for he knew that now that the fleet of the Amazons was no longer in existence, the Freyans—or the Divi—would rain bombs upon the planets of the Tirans and still forever the fire of conquest which had burned there so long and so destructively.

Brack, under the stress of the past month, under the added terrible sight of the destruction of a whole vast war fleet of human beings, under the wearing impact of the effort of the past days, gave way; now that need for effort was gone—and unashamedly began to weep. Tears streamed down his face, and the thought of all their efforts for the people of Ontal, frustrated at the last by these Tiran women—of all their plans defeated, of their enslavement in alien planets—A man can bear up only so long, and under the stress of battle many men break down. Brack was no exception. The Dagnani, seeing the tears streaming down his

straining face, asked:

"Why do you weep for the Tirani? They are better dead than we."

BRACK quieted, and the tears ceased.

He looked at Dagnania, the leader of the little people sadly. "I thought I saw the bodies of my friends upon that blasted hulk, and the sight set up a chain of thoughts. There have been so many losses, so much frustration of so great plans for me and my friends, and I fear that I will never see my friends again."

"You do think it was really they upon the ship?"

"Them or not, the sight tore my heart. I am sure they're dead."

"If it is them, they are dead. But the miracle of life—it is not always so easily stilled. And the miracle of second sight—that too is not to be denied! Mayhap it is your friends. We will search that ship. We want to note the effects of the bombs anyway."

Some time later a party of little people, all in space suits, were picking carefully over the wreck; the "papaers" from the great fore-cabin; the log from the bridge; some of the unexploded bombs from the hold—which they quickly decided to abandon again, upon Lee Conklin's advice, as no atomic bomb is safe that has been near an atomic explosion. And they came back bearing four stiff corpses, which Brack had identified with the view-ray as they were held up for him to examine.

The bodies were those of Nita, and of Bill and the old wizard, Ben Uniaty and of Nan King. The Dagnani examined the bodies closely—pushing back the hair, looking into the blood dabbled burst ears, touching the glowing, radio-active skin. He shook his head gravely, like a doctor examining a sick patient, and for some fool reason Brack's heart leaped at the sight of

that slowly shaking, thoughtful head. The Dagnani motioned to the men who bore the corpses, and they bore them aft through the tiny runways, just large enough to force the stiff bodies through. Brack turned to the Dagnani.

"Why do you examine the dead so closely?"

"I have nothing to tell you. They may, and they may not! These conditions of subjection to such vast energies of destruction are new to me. I can or cannot say with any positiveness whether or not they will live."

"But they are dead! What can you mean?"

"They are dead, as you call it, yet there is no finality of death among the Freyan people. We are not an ignorant race born yesterday. Some things we can learn from such as you, but not about life, I fear."

"You mean there is a process for restoring life to a dead body? That is news, but like you, it holds little hope for my heart, for I cannot believe it. If it was old Ben Uniaty said that, I would know there was a chance, but I do not know what you are accustomed to mean when you say words so strangely like English, yet so utterly different at times. The ancient tongue which mothered our languages has passed through so many bad times that meaning is different."

"When home is reached, you shall know. I will see that all is done."

Now homeward bound upon the trail of the fast Freyan fleet that had preceded them, was seen a fleet of ships mounting, mounting up toward them from a vast green ball below.

The Dagnani pointed—"The Divi have come to their appreciation feast. They have slept through a vast fire, have they not? This lesson may do them good, and they need it."

The two groups of ships drew abreast

and now the sounds of a strange language struck Brack's ears, the Divi were questioning, were realizing, were shouting delight at the news.

A race of great people, the lean, dark, hairy strength of the Divi, whose hearts were as big as their broad smiling faces—were learning of the deed of the Freyans. If ever a people owed another a debt, these dark, hairy men owed the tiny Freyans a debt of gratitude they might never be able to repay.

* * *

IT WAS later—many days later—when Brack was sitting sadly alone in one of glorious gardens near the home of the Dagnani, in T'Freyania, the planet's most beautiful home, watching the softly chirping and loving antics of pairs of fire-winged birds, the rare and beautiful Otnarko, as they swung and dipped their wings in the water of a fragrant pool.

His lean back against the trunk of a flowering crab, his feet on the soft moss-like grass of the Freyan woodland, his fingers idly caressed a lovely tame fox-squirrel which had come begging for nuts. Suddenly the startled squirrel scampered for cover, and Brack's lonely eyes looked up—into the face of Nita!

He leaped to his feet. "It can't be! I saw you dead. Am I mad, then, or dead myself—as I wish I was, too often, lately?"

"I do not understand either, you lean old faker, Brack Longen; my brother, you seem. But I am alive, and the queer Freyan talk tells me they did it with their medical 'on-magic.' Something about supplying dead cells with the flows of life energy natural to them until they take up the labor themselves. Can you understand such an explanation?"

"Aye, girl, I can understand it when I see you. Ah, Nita, give a long bro-

ken-hearted friend your embrace."

Nita wrapped her arms around the suddenly joyous Brack, and over her shoulder he saw approaching slowly across the shadowed flower starred moss-grass the halting feet of old Ben Uniati, supported by young Bill Flores—who looked himself as if he needed support until his eyes met Brack's joyous ones, then he shouted with sudden new energy: "Hi, you son of a worthless gun, you—how in H did you get here in heaven, too?"

"Bill, it wasn't heaven for me until this moment. Honest, I never came out of the glooms so fast in my life. All our work—we can do it over! The Freyans—they may set us back on earth. Everything we hoped for may yet come true! And best of all, my friends *are* alive."

"It only remains to find Tim Shanter before these Freyans and the Divi get together and blow the whole Tiran nation out of space forever."

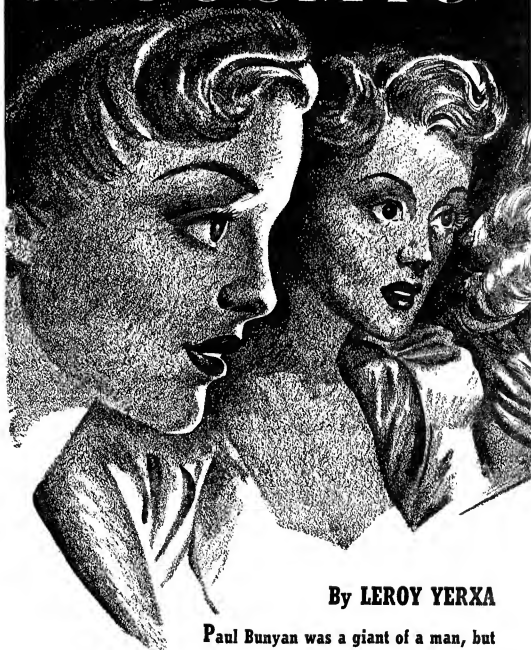
"We can do anything after this."

"I believe it!" Nita's eyes were wet with happiness—and silently her heart thanked the universal mother of all to whom she had prayer on the eve of the battle as the atomic bomb-rockets had pursued Ru-Non's craft. That pursuing rocket must have been knocked out of order by the titanic concussion of the other ships' explosions. Or had her prayer stopped it? But her mind told her she should thank the little people.

In the distance, Andy Miller strolled through the fairylike gardens, his arm about the waist of Nan King—very possessive, very sure! The Dagnani had just married them in the Freyan love-temple.

So we leave the reunited friends—and may Earth know their work in the future—when the secrecy that shrouds the good of the caverns, as well as the bad, shall be lifted.

The COSMIC



By **LEROY YERXA**

Paul Bunyan was a giant of a man, but were there giant women also? When Guy Renier's little daughter told her story, it seemed so . . .

SISTERS



"They were all evidently pleased with themselves, and with me"

GUY RENIER had just finished telling how Paul Bunyan and his great blue ox created the Grand Canyon by dragging his plow across the Arizona Desert. Later, I often thought of Guy and the way he chuckled when little Renee, his half-breed daughter rushed to him and sobbed out her story of the Woman High as a Tree.

But the Cosmic sisters, and Paul Bunyan for that matter, need a bit of explaining. Perhaps, because the visit

of the Cosmic sisters involved me more than anyone else, I am privileged to wander a little at this point. It seems necessary, so that you will understand my emotions when these huge, unbelievable people prove to be more than a fairy tale tossed from little Renee's lips.

I, Reed Falcon, had been at Indian Lake for three years. The lumber camp at the north end of the lake needed men who could swing an axe.

Guy Renier caught my imagination

at a time when my spirits were at low ebb. Not a bank in New York would give me credit and I was thinking of choosing a deep hole in the lake to drown myself. In two months his vital, honest laughter changed my viewpoint toward life and sent me into the woods to clear a place for myself in this majestic new world.

Guy's cabin became home to me. We often sat late, spinning yarns of the north, while black-haired, stary-eyed Renee sat on my lap and believed every word her father spoke.

It was on just such a night that Renee slipped out of the cabin and ran the fifty feet to the lake to bring fresh water. If I remember distinctly, Guy had tipped his chair back against the fireplace. His ruddy, good natured face shone in the fire light as it always did when he spoke of Paul Bunyan. We were both laughing heartily when Renee's high pitched scream broke the stillness of the night.

Guy was inclined to be fat and he had removed his heavy boots earlier in the evening. I saw only the flash of long, red woolen socks as he rushed toward the door. His chair hit the floor with a crash. I was close behind him when we reached Renee.

She ran toward us and fell into Guy's arms. She screamed again. It was the most heart-rending sound I've ever heard.

Guy took the girl in his arms, made sure she had not been injured, then shook her gently but firmly by the shoulders.

"What is the matter, little wren?" he asked her.

Renee cowered in his arms, shaking her head and trying to recover her breath.

"No—no!" She started sobbing. "I see a lady across the lake. She is taller than the trees!"

GUY stared out across the quiet waters of Indian Lake as though half expecting to see such a woman. Then he looked relieved. He started to laugh but it was a nervous laugh.

I knew the girl must have been dreaming but I couldn't take my eyes away from her pinched, miserable face.

"But I did—I did," she screamed, and started to struggle with her father once more.

Guy held on tightly, gathering her close to him.

"Now—now," his voice was flattering and soothing at once. "Of course you see such a lady. You listen to story of Paul Bunyan and your eyes grow so beeg, you see everything beeg."

She continued her sobbing and tried to break away from him. Her eyes caught mine and I confess that I saw nothing but truth in them. She was quiet after awhile, allowing him to carry her back to the cabin. Guy undressed her tenderly and placed her in her bunk. She continued to stare at me, as though seeking someone who would take her side.

"The baby is tired," Guy leaned back in his old position once more, lighted his pipe and stared into the flames. "I think we talk about *small* things for awhile, hey Reed?"

"Uhuh!" I said, but I still wasn't satisfied.

THE country around Indian Lake is wild. First growth timber marches through the valleys and up steep mountains. The lumber company hasn't touched more than a tenth of it. Guy Renier's trading post serves a dozen Indian families and the crew at the camp. All together, there aren't more than thirty white men living within a hundred miles of Indian Lake.

Perhaps that explains why Renee's huge lady wasn't seen again until some

time later.

A week went by and with the exception of Renee's continued insistence that she had not *dreamed* of the tall lady, I had forgotten the whole matter. I was getting into fine shape, sawing and chopping my way back to health. To me this was a personal contest, resulting in a stronger body and a mind that would be ready to fight again when and if I decided to return to civilization.

The story of Renee's lady got around and soon every French-Canadian in the camp was insisting that Paul Bunyan had taken a wife and was returning to the north woods. The story became so real to them that I pity the man who dared open his mouth to whisper that Paul was a myth and did not really exist.

Then one cold night in late October, Renee Renier disappeared. I was down at the post soon after eight in the evening. Some of the men from camp were there when I arrived, but they weren't taking Guy's troubles much to heart.

Guy met me at the door. His eyes were red and he knew he was in bad shape.

"Reed," he shouted as I approached. "Renee is gone!"

At once I remembered what had happened the night Renee went to the lake.

"Gone where?" I approached swiftly, wanting to hear the whole story. "Surely she'll be back before bed-time!"

As soon as I reached him, Guy put his hands on my shoulders and drew me into the shadows beside the porch.

"Reed," he begged. "Don't laugh like the others. Renee went away this afternoon. She said she would stay close by in the woods. She was going to return before dark. Now it is eight o'clock and she has not come in."

Laughter arose from within the store.

The men around the stove were discussing the day's events. I didn't want to worry about the little girl. I wanted to throw off the chill that went through me. It was impossible to forget Renee's earlier experience.

"You don't think she's lost?"

He stared at me in the darkness, and I knew what he was thinking.

"Reed Falcon," he said, "you come from the outside. You've got the brawn of a lumber-jack, but more, you got brains. You understand things the others laugh at. Reed, I think maybe Renee is with her big lady."

I knew what he was thinking, but I was startled to hear him say it.

"But that's fantastic," I said. "In the first place no one has ever seen this creature that Renee described. Renee knows her way around. She'll come back safely."

He shook his head stubbornly.

"That's just what I been thinking," he persisted. "Renee wouldn't have no trouble finding her way home *unless someone kept her from coming.*"

I GUESS I had been convinced all the time. Now, realizing that Guy was really worried, I knew I wouldn't give up the search until black-eyed little Renee was home safely and toasting her toes before the fire.

"Don't say a word to the others," I cautioned. "They'll pull a lot of that fool Paul Bunyan stuff. Stay here at the store. I'll be back in half an hour."

He crushed my hand in his. "I'm going along."

"Stay here," I begged. "No use stirring up a lot of excitement that will probably end in a joke. If you don't hear from me in an hour, there will be time enough to follow. Renee is no fool. If she's lost, she probably started a fire and is curled up like a chipmunk somewhere in the hills."

I had only a hunting knife, a small packet of matches and a pistol. The weapons came in handy when a rattler or a bear happened across me in the woods. Indian Lake is shaped like a cup, and the valley rises on all sides, reaching up to the higher hills of the Shoshank Range. I thought I knew which way Renee would go. The child loved to climb the Shoshanks and stare away into the distance toward the outside world. I had been up the trail with her many times on Sunday afternoons.

I found that my few years in the woods had made the trails easy to follow. I picked up her track, sometimes a bit of freshly broken twig at the side of the trail, or a muddy print on a rock.

I had progressed swiftly upward until Guy Renier's trading post became a tiny box in the valley far below me. The lake sparkled in the moonlight and smoke from the cabin drifted into the clear, dark sky.

The air was clear and cold. Stars seemed so close that once more I yearned for a fine telescope, the type I had always used in New York. My fingers itched to touch the delicate dials that would bring the moon and the other planets within studying distance of my eye.

When I think back, there was something in that night and its stillness that might have warned me. Warned me that, being so close to the stars and their power, I could expect them to affect my destiny.

Then my thoughts were only for the little girl. I was growing worried. If she had started home she would have been far below this place by now. I toiled upward, and the thin air hurt my lungs.

The moon was bright in the clearing where Renee usually came to play. In

the direct center of the clearing, deeply impressed among the pine needles, was the print of a huge boot.

The print, nearly five inches deep in the soil, was well over nine feet in length. Lying not six feet from the great foot-print was Renee Renier's blue and red hair ribbon.

I THANKED God at that moment that Guy Renier had not come. Perhaps there was a solution. Perhaps I could solve this alone. First I picked up the ribbon and placed it carefully in my pocket. Then, with my foot, I covered the huge print carefully with pine needles. Guy would follow me in a short time. I didn't dare let him see what I had discovered.

I started to search the vicinity for another foot-print. The one I had found pointed straight ahead. I followed in that direction and had walked approximately fifteen feet. Hidden behind the brush was another boot-mark. The heel was dug in deeply as though the giantress had been running. I plunged swiftly through the low brush and down the bare side of the hill away from the lake. The prints were easy to follow now. Somewhere, far ahead in another valley I caught sight of what I then thought was a lake. It sparkled in the moonlight. I reached the edge of the forest that covered the valley and ran in among the trees. These were great spruce and pine, some of them towering over a hundred feet into the air.

Here the giantress had slowed down and the trail was scattered with tree limbs that she had torn away as she ran. Cautiously I went forward, frightened because I might never find Renee, and more afraid that I might. I had no idea of what I could do to help her.

I reached a large clearing where

the moon filtered through the trees. I was half way across it, when the trunk of a great tree moved slightly. I stopped short, staring upward.

It was no tree at all, but the booted foot and long leg of Renee Renier's great lady. I was too frightened to run. I don't think I had a chance to escape.

I stood still, legs apart, bending my head backward to see her.

What I saw was a girl, seemingly about twenty years old, leaning back easily among the upper branches of the forest. Her arms were crossed and her long auburn hair hung down about a comely face that was at least twice the height of my entire body. She wore riding boots, gray whipcords and gray shirt. A wide belt around her waist held a big tube of glass-like material that flashed in the moonlight.

How long we stood still, staring at each other, I don't know. To me, time lost all meaning. I was frightened, yet never before had I seen such a beauty. If a thousand men had chipped this giantess from flawless marble, they could never have produced anything half so perfect.

She grew tired of staring at me. I saw her bend slightly and her long fingers reached downward. I turned and started to run. I was like a mouse being teased by a cat. I reached the underbrush and was about to dive into it head first.

BRANCHES broke close above and hurtled to the ground. A small pine broke off with a loud crack as she hit it with her elbow. Soft, firm fingers went about me, and I lay still. It was useless. My entire body fitted into the palm of her hand.

Then came that heady feeling of flying through space. I was moving upward until I was above the forest, hang-

ing there with only her finger between me and death. She held me in the light where she could examine me closely. I heard her murmuring, but the words were strange to me. She held me under the arms with two fingers and with her other hand, touched me in a manner that to her no doubt meant to be gentle. I shouted in pain. She released the pressure and cradled me in both hands. Now I was about ten feet from her face. She was startlingly beautiful. Her lips, pearly white teeth and wavy auburn hair were perfection plus. Her eyes, wide as she stared at me, were depthless.

She seemed satisfied.

I suffered another swift trip downward and knew that she was pushing me deep into the pocket of her breeches. Her hand retreated and left me fighting and kicking inside the soft cloth.

I could hear the earth shake and trees break away before the pressure of her arms and legs.

The air I had to breathe was growing stale and I tried to climb upward, fighting my way to the top. One finger entered the pocket and pushed me down again.

I didn't have strength to fight any more. I lay on my side, gasping for breath and praying that Renee was still alive. I hoped Guy and the men would not try to follow.

Then, a roaring sound came into my head and I listened, trying to understand what caused it. I didn't realize that it came from weakness. I gasped for the little oxygen that remained, and passed out.

I OPENED my eyes slowly, the dull roar dying down to a painful headache. My eyes smarted and I felt as though I could never move freely again.

The first thing I saw was the egg-shaped glass prison that kept me from

moving more than three or four feet in any direction.

I was lying on a solid circular floor and the glass rose above my head. I managed to get to my knees. My shirt had been removed. I struggled to my feet. The egg-shaped prison rested on top of a huge circular turret of metal. It was held firmly in place. Through the glass I saw that I had been brought into a strange world of steel struts and beams that stretched away in all directions. Walls, hiding my own world completely, were covered with instruments. Lights flashed all colors of the rainbow and shining beams crisscrossed the space above.

Then I saw her again, my giantress of the forest. She had discarded her heavy clothes. She came toward me from the dimness of a great hall. She was clad in a simple blouse, open at the neck. She wore sandals and a skirt of silk material that made her appear more like an earth woman and less like something from a strange planet.

But she wasn't alone.

They all looked alike at first. Alike in dress and general appearance. I was to learn later that never had there been four sisters whose thoughts varied so widely. But now, as they approached the sphere that held me, they were all smiling, evidently well pleased with themselves and with me.

The one who had captured me spoke first. I suppose her voice was gentle, but as her mouth alone was large enough to swallow me, the effect on my ear drums wasn't pleasant.

"This is the finest specimen yet," she said. "I think we are ready to leave now. Our work here is done."

The announcement was followed by pleased laughter and four faces moved close to my prison.

"Don't you think we should try to communicate with him?" one of them

asked. She seemed apologetic and I noticed that her eyes were wider, her expression more gentle than the rest of them.

Only one of the sisters was blond. She had a heavy, weak face and wide voluptuous lips.

"Communicate?" she protested. "Why?"

"Just the same," the fourth girl broke in. "He *is* cute. Can you understand, little man?"

"I understand," I admitted.

They stared at each other, then the blond flashed me a smile.

"You can talk because you're under the speaking spheroid," she said. "It makes our language your language. Otherwise we could not understand."

They all chuckled and I wondered what was so damned funny.

"You're going to Zurazz, probably on the head of a pin," the blond said suddenly.

I shuddered a little and didn't know why.

"Yes," another said. "You're the only really worth-while specimen we've picked up on this tiny planet."

SPECIMEN? Tiny planet? Then they *were* from another planet and not part of a Bunyan myth! They had already hidden Renee away somewhere.

"Look here," I shouted. "You do have another specimen, don't you?"

The blond nodded. "We have another."

"I don't know where you're from or where you're going," I admitted, "but the other specimen is a mere child. She is undeveloped and unworthy. Why not free her and take me in her place?"

There was a quick chorus of protests.

"But we are taking you both."

I shook my head. "Evidently you don't know much about earth." I tried

to put disdain in my voice. "The little girl child is a poor example of this planet life. I, on the other hand, am a full grown male and a fair sample of my fellow men. You would not be needlessly cruel. Why, then, must we both go to our deaths?"

I noticed that throughout this entire argument, one of the girls regarded me quietly and intelligently. She was, by far, the most gentle appearing of the four, and in addition, the one who had captured me in the forest.

"He is right," she said. "There is no advantage in taking two of them. Our specimen cases are nearly full. Take the male and return the small specimen to the place it was found."

"They are so tiny," the blond protested. "They will both jam into the same bottle. It will be no trouble."

The one who had taken my side tossed her head stubbornly.

"I insist that the small specimen be returned safely and that we leave for Zurazz during next darkness. I still have a position to maintain and I insist that you listen to me."

A chorus of sighs followed this outburst. Finally the blond said in a sugar and cyanide voice:

"Reeba, you are so headstrong. Father Harru will have to speak to you when we return."

Reeba smiled softly.

"I will take my chance with our Father," she said. "Now I will return the small specimen to safety."

As they left the room, I realized that my safety lay in the chance of somehow convincing Reeba that I must not die. I knew also that Reeba was the gentlest and most lovely of the four sisters. She would take Renee back to the mountain where the little girl could find her way safely to Guy Renier's cabin. I wondered what Guy would think about the story Renee

would tell this time. I could hardly believe it myself even though at present I was the main character.

PERHAPS an hour passed before they approached my prison. Fresh air was forced in to me from a series of grills under my feet. It was growing dark around the outside of the glass shell. Then without warning, the room was flooded with light. For the first time I was sure that I was in a room. Before, everything had been so large and dim that it was like a forest of steel. Now, by staring as far as the eye could see, I managed to scale down to an understandable size, the doors, portholes and other objects around me.

I was inside some sort of a ship. It must be a space ship, because they had spoken of returning to the planet Zurazz. That puzzled me also. At Colgate in New York, and later at my own observatory, I gained a fair knowledge of the stars and planets. Here, then, was a planet that had never even been dreamed of by students of the skies. How could I, even in close contact with them, satisfy myself that such huge creatures could actually exist?

I sat down on the grill under the powerful lights. Without warning, the egg in which I sat was picked up.

At the same time, I was aware of dead silence inside my prison. Although air still came from the bottom grill, when the egg was lifted from its resting place, it evidently shorted the sound equipment and left me in a silent world of my own.

The egg steadied somewhat and I could see that the hand of a woman covered the outer side. I was being carried to some other part of the ship. I knew that to the sisters, I was only a specimen. I didn't like to guess how 'specimens' were prepared.

I continued to slide around inside the

glass. Then the band disappeared and the egg dropped on a steel surface. As soon as it stopped rolling, I looked out.

The huge woman was towering above me. I believe that I was on a bench, although it might have been main street as far as I was concerned.

Then I received a shock. The blond's hand came toward me. In it was a hypodermic needle. The needle was a foot long, tapering to a point the size of my finger tip. The edges of that point were sharp as shattered glass.

I could already feel the needle grinding into me and the sudden force of liquid as she released the stream that would preserve me for the bottle.

I cowered against the lower side of the egg, and as I did so, saw the line of the bottles on a shelf high above. I knew the place destiny held for me now. There were hundreds of vials, stoppered and carefully lined up on that shelf. Within them were men, not like myself, but at least enough so that I recognized them as such. It was clear to me then what the sisters were doing.

Zurazz was a great planet beyond our own solar system. Evidently the sisters were going from one planet to another, staying only long enough to capture and preserve specimens of each type of life.

I saw still, floating figures of men with green bodies, one eyed monsters, and many legged spider-men.

I shuddered because the egg was already in my captor's hand once more. I was to join this collection of ghastly floating corpses. She cracked the egg glass gently on the bench top and I heard it clatter and fall away from me. I crouched low, not knowing where to run, afraid that if I did she would crush me beneath her palm.

I could hear her mumbling, but couldn't recognize a word of her strange language. As tiny as I was, in staring

up at her, I recognized a touch of insane glee in her eyes as she reached for me. She wanted to make me suffer before the others found out.

I'm not ashamed to admit that I shouted desperately for help. My voice echoed and re-echoed through the huge room. Then her fingers grasped and held me tightly around the waist.

I kicked and howled and fought back with all my strength.

The needle was close, pressed like a gapping mouth against my ribs.

"Aweeee," the cry, angry and sharp came from behind the blond.

SHE dropped me on the bench and whirled around. I started to run then retreated behind a green bottle that was three times my height.

Peering around it cautiously I tried to determine where the cry had come from.

It was Reeba who had saved my life!

Reeba who had safely sent Renee home, stood several yards beyond the blond, and though the sounds that fell from her lips were meaningless to me, I saw the blond drop the needle and hang her head in shame. Reeba came close, and pushed her sister aside. She studied the bench carefully and as I stepped hesitantly into her line of vision, she picked me up in the palm of her hand. From a cabinet below the bench she drew out a shining new glass chamber and opened the grill on the bottom of it. She put me inside.

Meanwhile, the blond left the room. Reeba carried me back to my original prison and placed the egg on top of the big cylinder. At once every sound became clear in my ears. She leaned close to me.

"Can you understand me now?"

I nodded, still too overcome to speak.

"Your life has not been saved yet," she said. "Lura almost added you to

our specimen collection."

"But why," I protested. "I've never harmed her or any of you. I have a right to live."

She shrugged her shoulders.

"I don't understand you," she confessed. "You seem full of spirit. You are, save for your size, almost like one of us. Let me tell you a story. It may seem long and uninteresting, but you must listen."

"But first," I begged, "why did Lura want to kill me?"

She shook her head.

"That will come," she said. "Listen to me. We are from the planet Zurazz. It is far beyond the tiny earth system. Lura, Lona, Shanna and myself are from the royal house of Harru. For many years we were educated in the great universities of Zurazz. Time came for us to understand the power of our civilization. We were given the space-liner of our father's design and told to visit the small planets. We were to bring back a sample of the highest type of life from each planet."

She hesitated and I saw a sudden tenderness in her eyes.

"We have served the house of Harru well and the mission is nearly completed. In Lura, there is nothing but cold hearted hate for anything beyond Zurazz. She has enjoyed every moment of the expedition. She loves to kill.

"Lona is like her, but wise and crafty. She makes Lura do the things she is ashamed to do herself.

"Shanna is different. She came only because father Harru made her come. Shanna hates death and hates to hurt others. She is most like me. Perhaps I, Reeba, am not wise. I will be punished for quarreling as I have with the others. I am sure that Lura will not rest now until you are a corpse in one of her bottles."

Genuine tears filled her eyes.

"I am not so much different than you," she cried out. "We have been brought up to believe that we are superior to any other race. That isn't true. Our universe is larger. We are larger to fit the surroundings. Actually, we are the cumbersome, overgrown dolts and you of earth and the small planets have our wisdom and our pleasures contained in a smaller body. You are no more a specimen to be killed and mounted than I am."

I agreed with her, but I didn't know what to say about it.

"Perhaps," I suggested in a humble voice, "you would be willing to help me escape?"

She shuddered. "Then they would kill me. I think they hate me that much. They would tell our father that I was lost in space and could not be found. No, you must return to Zurazz."

"I guess you know how I feel about your saving my life and taking my side as you have," I said.

"I had to help you," she whispered. "For in spite of our great difference in size, I admire you greatly. I'm afraid that I'm—very much in love with you."

Her words were such a shock to me that, for a moment, I couldn't grasp their full meaning. I leaned close to the glass and spoke to her softly.

"Your sister would not understand. You must control yourself."

She lifted her head and smiled at me with tear dimmed eyes.

"I will be more careful," she promised. "Now you know how I feel. I ask nothing of you but your loyalty and your help if I need it."

I nodded. My throat was dry. I stared up at her lovely face.

I WAS given the privilege of watching the ship leave earth for her home port. Reeba had accomplished the mir-

acle of keeping me alive. Quiet, loyal Shanna had taken Reeba's side from the first. Lura and Lona agreed that I could remain alive to see Zurazz, on the condition that I would be mounted and exhibited later. I think that Reeba convinced them that I might be more sensational if I were allowed to strut before an audience under my own power.

For the time being, at least, I gained a bit of prestige aboard the ship. In spite of their size, I had learned in a few hours how each of the four sisters must be handled. By watching the gigantic faces, I was able to read character even more easily than I could on the faces of girls I had known on earth.

Lura, the blond, took me over completely after she decided that I was to remain alive. Her eyes, her lips gave away her thoughts. She admired me greatly as an animal that would look equally well dead or alive. She smiled at my jokes, but delighted in squeezing me too tightly when she had the chance.

Lona was different. In many ways she was the most beautiful of the four. It was hard, calculating beauty. Her heavily lidded eyes, and pale skin were enchanting. She spoke in a soft drawl that was pleasant to listen to. Reeba I already loved. At least as much as a man can love from pure gratitude. Shanna stayed away from me. Shanna was home-sick and didn't approve of the expedition.

I knew that Reeba watched her sisters closely when they had me in their possession. Therefore I didn't worry. On the morning after Reeba and I talked, Lura came to me again. This time she apologized for what she had done.

"After all," she said, "how was I to know what the others planned. I have always handled the specimens. I thought you were no better than the

rest."

She cautioned me not to be frightened, then removed the glass shell with me inside it, and hurried through long halls toward a destination I knew nothing of. At last we entered another room which was surrounded by great windows. By this time I was so overcome that comparisons were hard to make. I guessed that this was the control room of the ship. One must remember that the chairs in which the girls strapped themselves were designed to hold people a hundred feet tall. The dials, wheels and compasses were proportioned accordingly. Having replaced me on another large sphere, Lura spoke:

"We designed the speaking-sphere and placed one in each room. You are not the first specimen who has been able to see our ship and speak to us by thought wave. We have a complete stock of the globes like the one you occupy.

"This is the control room. Perhaps you would like a last look at the world you are leaving?"

She lifted me and held the glass shell close to the window. I stared out in astonishment. Now I knew what the lake had been which I thought I saw in the valley. The ship stretched away for hundreds of feet in each direction. It was made of polished steel-like material and shaped into a huge flying-wing. It sparkled and shone in the sunlight. Below me was a forest. The ship had crushed down acres of trees, plowing them under as though they were green tooth-picks.

I COULD see the mountain range that hid Guy Renier's cabin from sight, and the thought of leaving Guy behind gave me a heart-ache.

Lura lowered me gently on the sphere.

"It's—a gigantic ship," I admitted.

Lura chuckled.

"Only a pursuit model," she said. "Wait until you see Zurazz."

She winked at me suddenly and tipping the glass over, pulled me into the open by one leg. I wanted to shout for Reeba, but dared not. I might cause the other sisters to turn on Reeba if I continued to go to her with my trouble.

But Lura wasn't going to harm me this time. She held me in the palm of her hand.

"What a man," she said sarcastically and drew me close to her mouth. I felt her lips against my face and feared this was the last moment of my life. Then she pushed me away again and dropped me into the glass. I heard her sigh as she placed the glass back on the base.

"What a man you are," she said coldly. "Sometimes I can't understand Reeba at all."

Had she found Reeba's real reason for keeping me alive?

We left earth approximately two days after I was captured. It was sometime after midnight, as nearly as I could guess, that Reeba came into my prison room and smuggled me from the egg glass into the tunic pocket of her flying outfit.

"You will be safe in there," she assured me. "I am going to place several layers of soft fabric under you to lessen the shock of the take-off. Besides," and her voice grew more tender, "you will be close to me."

After that I was no longer in the glass and could not understand what she said. When I again dared look out of the pocket, we were in the control room. The huge windows allowed the full sweep of moonlight to enter the ship. Otherwise, the room was dark, save for flashing lights on the control boards. The entire room was too large for my mind to grasp. I could never hope to control such a ship alone.

All four sisters were here now. They sat quietly in shock chairs ranged along the flashing dial. Lura was at the wheel, a large affair, not unlike a ship's wheel. I heard Lura speak but couldn't, of course, understand her instructions. I tensed, expecting the usual blast of rockets that would boost us into the sky. Instead, aside from a force that held me tightly against the bottom of Reeba's pocket, there was no great shock. I would have said that we had not moved. Yet, I stared out of the pocket once more and I could no longer see the world of pine forests below. There was nothing but open sky. The flying wing was no longer a dead thing lying against the valley floor.

"The air chambers worked well." I heard Lura's voice and was shocked that I could understand it. "You can let the little man out of his nest now Reeba. He'll be quite safe unless someone steps on him."

She didn't know that I understood her. This hothered me for some minutes. Then I noticed that she spoke through a small head phone. Somehow, through the radionic quirk, my ears picked up any message that went into the speaker.

OF THE journey to Zurazz I can relate little. Being so small a part of such a vast ship, I was unable to wander at any time from Reeba's side. She took personal care of me every moment. When she slept, I was returned to my egg glass on the spheroid. She carried the key to that door in her pocket. During the day I rode in her jacket pocket, standing so that I could look out over the top.

I saw things of which I had never dreamed. Vast reaches of space in which the earth grew small as a marble and finally disappeared entirely after our third day out. Until now I had

flattered myself that I knew the sky well. Now, travelling with these women, I realized that there were other worlds that could not be seen through a telescope.

On the sixth day, we hurtled downward through the layers of gas around Zurazz and came within sight of this great planet that man had never dreamed existed.

"This," I told Reeba, who was sitting at the main control when we dove through the colored gas, "is beyond my imagination."

She chuckled.

"By that, you mean it is beyond the ken of man's weak instruments. You are very funny people. You on earth pay great compliments to your own intelligence. You think that what you know nothing about or cannot wholly understand, does not exist.

"Actually, from what you told me of your universe, it is but a tiny part of life that exists in space. Zurazz alone is many times the size of your entire group of planets."

I could believe that.

The sisters were anxious after so many months away, to land without further delay. They were grouped around the large screen that they called the visuo-messenger. I learned much about them by listening to their phone conversations when none of them suspected I could understand.

"Our Father of Harru should be at Zanus to greet us," Lona said. "It will be good to toss this—this collection of freaks in his lap and go back once more to the warm baths and lazy days at the castle."

At the mention of *freaks*, Reeba's hand crept to her pocket and I felt her fingers pressing me gently.

Lura laughed, noticing Reeba's gesture.

"Reeba doesn't want to think of giv-

ing up her freak," Lura said. "She's quite fond of him." Reeba bit her lip and was about to reply when Shanna cried out excitedly.

"It is father—see him, on the visuo."

They turned toward the screen, all smiling expectantly.

"Father," Reeba said. "Is the field prepared?"

I studied the leader of the house of Harru carefully, hoping I wasn't visible in Reeba's pocket.

"It is prepared," he said. "You may come in at once. Bless you in the name of the House."

The man on the screen bowed his head slightly and the girls followed his example. I had a chance to draw some first opinions.

Father Harru wasn't the father of these young people. I could guess that from the dried up wrinkled old face. He must, then, be some sort of adviser. He had kindly blue eyes and was dressed in a brown robe with a length of rope tied about his skinny middle.

DURING this conversation, the ship had been roaring ahead steadily toward a green bank that formed below us. Father Harru's face was suddenly visible again.

"The sound of your craft can be heard now," he said. "I will turn you over to Guide Ten."

"Thank you." It was Reeba who answered and who hurried to the wheel. She sat down and leaned forward expectantly. Over the screen an urgent voice said:

"Guide Ten at the Port. I was worried, Reeba. Father waited a long time. You might have crashed."

I stared at the vision of the man who spoke to Reeba. I knew from the sound of his voice that he felt a certain ownership for the girl. He was young, had a small black mustache and eyes that

seemed jet black.

"Thank you, Taunz," Reeba answered swiftly. "If you're worried, stop talking and guide us in."

Taunz' face turned very red.

"Very well, Princess of Harru," he said stiffly. "Angle X6—Angle Y10—Angle Z26."

Reeba repeated these strange figures after him, jerking down certain levers that turned the flaps on the wings of the ship.

The craft seemed to hesitate, then slipped off and changed its course noticeably.

"You're all right now," Taunz said coldly. "Keep your course until X and Z cross. Then shift sharply to Angle Y32. You'll come in on a clear field. How about attending the peace party with me tonight, Princess?"

Reeba pressed the switch that cut Taunz' face from the screen.

We continued to plunge downward. In Reebe's pocket, I could feel the pulsing of her blood, the warmth of her body. It seemed that she was undergoing a terrible physical strain. I stared around at the others. Their eyes were on Reebe. Only Shanna seemed to understand. Lura and Lona plainly showed their disgust.

Lona spoke over the earphones, and I understood her words, words that I never should have heard.

"It seems that Reebe doesn't care for Taunz since she has met the tiny earthling. I wonder what our Father Harru will say when Reebe asks him to break her bond with a mighty warrior like Taunz?"

Reeba's mouth straightened into a grim, white line and a tear formed on her lower lid.

"Perhaps Reebe wants to wait for the earth specimen to grow to full size," Lura offered.

All the conversation stopped at that

point. The surface of Zurazz bounced up to us swiftly. I was aware of great buildings that towered above us as the ship sank to the surface of the planet. Buildings that looked for all the world like sections of Manhattan.

"Termination points—X and Z," Lura cried. Reebe flipped the wheel swiftly, the craft straightened out and glided in on a long, hard surfaced runway. Ahead, hundreds of people were gathered about the entrance of an opened hangar. The ship slowed and slipped into the hangar. My journey to Zurazz was completed.

REEBA, for reasons best known to herself, returned me to the egg glass before she left the ship. Thus, I was not present at the landing ceremonies. I knew that she wanted to speak to me, to question me about some problem that troubled her. Still, she was quiet and I didn't dare approach her. I was left alone, only able to hear the distant sounds of many voices, rising to shouts of gladness as the four sisters left the ship and were greeted by their own kind.

I remembered wondering what sort of trial I would have to face for my life. I never doubted that I would face such a trial. Reebe, and perhaps Shanna, were the only ones who considered me a living person. In the eyes of the people of Zurazz, as had been the case with Lura and Lona, I was but another tiny specimen to be mounted and put on display.

I don't know how long I stayed in the ship. I couldn't get out. I was cramped and growing very cold and the ship itself had cooled off. It grew dark and at last I could see only the dull reflection of light coming from somewhere outside, touching the glass of my prison.

Then there was sound in the room. The sound of footsteps that were slow,

almost stealthy.

I crouched close to the grilled floor waiting. Then complete darkness swooped over me and I heard the rustling of a black cloth as it pressed around my prison. The glass was tipped around and around and I went with it, sliding and bumping inside.

Voices, though I could hear two people talking, were in a strange tongue.

For a long time I heard the rumble of feet, then the whirr of wheels against a smooth surface. Then I was being carried once more, and I rattled around so much within the glass prison, that I thought every bone in my body was broken. At last the glass was lowered to a smooth surface and the cloth removed. I stared out into a huge, beautifully decorated room. Then, at the excited face of Shanna Harru. She ran swiftly across the room, which I guessed was her personal chamber. She drew a small box from a chest and returned, placing my sphere in a depression on top of the box. At once I could understand what she said to me.

"Lona and Lura," she was shaking with fear, "planned to kill you and present you to Reeha in a bottle. I had no time to warn her. I brought you here to the palace. They will be searching for you."

"Where is Reeha now," I asked. "What is your father's attitude toward me?"

"You are too small for anyone to take seriously," she said. "Except for Reeha. Reeha loves you very much, and I love Reeha. I'll do anything she wishes."

I would have felt better at that moment if I could have broken out of the egg and knocked a few heads together.

"Listen," I said hurriedly. "I've got to be free to hide and escape by myself. They will become suspicious of you in a few minutes. They'll come here and

find me. Let me out and I'll hide until Reeha has a chance to help me."

"You cannot understand our language unless you are within the chamber," she protested.

"I don't have to understand languages," I shouted. "All I have to do is stay out from under boots. Please let me out. I'll return here in the morning. If you have anything to tell me, tell me then. Meanwhile, give me a chance to find out a few things for myself." /

SHANNA was weak and Shanna knew Reeha cared for me. She couldn't refuse my request. She lifted the glass and took me from it. She placed me on the floor and muttered something that I couldn't understand.

I heard the sound of footsteps from across the great room and a surge of wind almost blew me over, as the door flew open. I didn't have to worry about hiding. The draft blew me from my feet and I slid across the room and under a bed.

I knew because of the boots that I saw coming toward Shanna, that both Lura and Lona were hot on my trail. Then I remembered the glass under which I had stood. Shanna would have no time to hide it. They would know that I was close by.

Above me, far out of reach, were the springs of Shanna's bed. I grabbed the blankets that hung down and started to climb hand over hand. I heard all three girls arguing loudly outside my hiding place. I reached for the springs and started to run in among them. Not a moment too soon. Lura's knees hit the floor and her head was visible under the edge of the bed. I could feel her hot breath as I crouched against the spring supports a few feet from her face.

At last she seemed satisfied and retreated. I sighed with relief. The

sounds above me lessened. The door closed and I knew that for the time being I was safe. All three of them had hurried into the hall. I dropped to the floor and ran after them. I stepped out into the hall, carefully staying close to the wall. The floor was made up of square black and white tile. Each tile was several feet square. Huge, marble columns bordered the hall, rising out of sight into the dimness above me. The hall bordered a great circular rotunda below. In its center was a chandelier holding thousands of great candles. I realized that each candle was three times my size and moved a little more cautiously. I hoped sincerely that the House of Harru owned no house pets. A dog or cat, relative in size to the other inhabitants of Zurazz, would put my travels to an abrupt and bloody end.

MY IMMEDIATE problem was to find Reeba, or succeed in hiding from the others until *she* found me. As long as Lura and Lona were after me, I'd have to play about like a mouse, staying out of their reach.

I continued along the hall for some minutes (it seemed miles in length). After a time many voices came up from below. I crept to the edge of the balcony and stared down. Evidently the House of Harru was giving a banquet in honor of the returning travellers. The table stretched away as far as I could see through the haze of smoke that came from the huge, black weeds the men were smoking. I noticed that each of the sisters were seated with an escort and the fellow with Reeba was handsome in a dark, elusive way.

At the far end of the table an old man sat stiffly, smiling first at one then another, and I had the feeling that his heart wasn't in the merry-making.

I might have gone on staring down

at the feast if a sudden scratching behind me hadn't caused me to twist around to face a huge house-cat. The creature was several times my height and her mouth was wide open, yawning lazily. Her tail started to switch slowly from side to side. She moved stealthily toward me, stretching slowly as she relaxed for a jump.

I forgot that I was close to the edge of the balcony.

Two steps backward and the next moment I was hurtling dizzily through space.

To this day I don't know into what strange dish I fell. It might have been spinach, for I hit with a loud *ker-plunk* and sank out of sight in stinking, green vegetation. This broke the force of my fall, and aside from the blinding rage that swept through me, I was safe.

I struggled upward through the green slime, only to feel two strong fingers around me. I landed gently on the white cloth of the banquet table. My arrival was followed by so much meaningless conversation that I decided I'd caused quite a stir among the guests.

Someone had chosen a napkin for a towel and was wiping me with it. I nearly smothered under the huge cloth before I had been cleaned to my captor's satisfaction and left standing in the center of the vast table.

Around me great howls and dishes towered. The guests were chuckling and gathering about the end of the table where I had fallen. Then Reeba was there, high above me, smiling down tenderly.

She took me in her hand and I knew that she was returning once more to her place at the table. For a few minutes I couldn't understand what they planned to do with me. Then it became clear. A servant came with one of the small egg-shaped glasses and a support of the type Shanna had used for me in her

room. It was placed on the table and Reeba put me inside it.

At once I could clearly understand the thoughts and words of those about me.

"He is a cute little fellow . . ."

"Disgusting of Reeba to bring a common specimen to the table . . ."

"Poor taste. Kill the insect and have it over with."

OVERCOME by the snobbish remarks being made about Reeba, I turned and tried to see who had called me an insect. It was the smooth haired, mustached Taunz who sat next to Reeba. I had hated him from the first. Hated him ever since he had shown a feeling of ownership toward her on the visuo-screen.

"I'm not an insect to begin with," I shouted. "And as for killing me, you have a lot of courage considering your size!"

I knew that I'd said the wrong thing, but I was so angry that I didn't care much what happened. Something made me blind with anger when Reeba was ridiculed.

Taunz swore loudly and his arm swept out toward me. I knew that if the huge fist hit the glass in which I was standing, I'd die before I hit the floor.

At the same time Reeba cried out and held up her arm to ward off his blow.

"Taunz—please—don't kill him."

Lona, sitting on the far side of the table laughed coldly.

"No, Taunz, Reeba is in love with the specimen. You mustn't kill him."

Reeba's cheeks turned flaming red. A loud chuckle broke from Taunz' lips and floated down the table. Others laughed uncertainly wondering if Lona told the truth.

"Enough of this nonsense." The old

man at the end of the table rose. "My daughters quarrel among themselves. A banquet is spoiled. Taunz makes a fool of himself. All because of a tiny earthling."

He reached toward me, and transported my glass prison to a spot near his plate. He stared down at me and I had a chance to examine him carefully for the first time. The old man was obviously king, or whatever office they called it on Zurazz. He must be well over a hundred years old, if the wrinkled face and skinny hands were any indication. His eyes were bright and sparkling in spite of the anger he seemed to feel at this moment.

"Now then," he said. "Let us settle this once and for all. Lona has already told me that Reeba refused to mount this specimen as she was ordered to do. What have you to say, Reeba?"

The room was very quiet. Reeba's voice, when it came, was steady.

"The earth people are like us," she said. "Of all the planets we visited they alone look and act as we do. I see no reason to treat them as insects, as we do the other oddities we bring back. Only our size makes us more powerful and sometimes I'm not sure that size makes us any more intelligent."

Taunz grasped her hand and tried to pull her back into her chair. Reeba drew away from him.

"The good King, our Father, sent us abroad as is only right. We have seen all the planets and brought proof of our visit to all of them."

A faint ripple of applause followed this statement.

"Perhaps I am not gratefully a member of this family. I believe that Lona and Lura, my sisters, are naturally cruel and sadistic. They enjoy hurting small things. Shanna who is timid, and I who am compassionate, did not enjoy murdering simply because we are su-

perior in size. To kill is a game for warriors and not for women."

"Reeba!" her father shouted sternly.

"I know what you will say," Reeba went on. "Men and women of Zurazz have always bullied the little planets. This very banquet is in honor of us, and the murderers we are now supposed to be."

Taunz had sprung to his feet.

"I refuse to accept this wench for my bride," he shouted. "She is not fit . . ."

Reeba smiled sadly.

"Taunz, my thick-headed numbskull, I would never marry you. If my father wishes to send me away because of my beliefs, I will go willingly."

SHE paused and breathed deeply.

"There is one other point to be mentioned. Lona and Lura have tried to murder the little man. It is their own jealousy that makes them try this. They have no feeling for love of anyone. They live only for themselves. They know what I have found and they can't stand seeing me hold it."

"Wait," the King shouted gruffly. "If you are going to admit . . ."

Reeba nodded.

"That I am in love? That I have felt a great yearning for the earthling? Yes! It is true."

The King sprang to his feet. There was a great scraping of chairs as the remainder of the party arose with him. Reeba remained sitting, staring straight at me. I was supremely proud of her at that moment. Proud and puzzled, for there was no chance that we might ever share happiness together.

"Reeba," the King said sternly. "Zurazz is the most powerful globe in the cosmic system. Our people were born with size as their heritage. They have gone forth, man and woman alike, to win their spurs. After they have

taken their first flight, they have returned and been content here. As you are not, and therefore, not truly a citizen of Zurazz, I ask you to go to your room at once. I will discuss this with you later."

Reeba arose and reached for the glass that held me.

"Leave the specimen here," the King added.

Reeba hesitated.

"You—will . . ."

"He will be dealt with by your sisters who have the courage you lack," her father said coldly. "Now go, before I call the guards."

A shudder coursed through Reeba's body. She turned and left the table. I stared at the other sisters. Lona and Lura were grinning maliciously. Lona saw that my eyes were upon her and snapped her thumb and forefinger together tightly. I could almost feel my neck between them. Shanna alone wasn't staring at me. Her lonely, tear stained face was turned away, watching Reeba as she went out.

A huge napkin fluttered down, covering my prison. I sat down in the darkness and tried to think.

I SAT still for some time, then it seemed to me that the party was growing much noisier. I wondered if, in the midst of the excitement, I might be able to slip from under the glass and escape without them noticing me. It was worth a chance. In my present plight, it was but a matter of minutes before I would be destroyed.

I waited for awhile. Then I pushed up the edge of the glass, finding that it took all my strength to do so. I knew there was a danger of it toppling to the table and crashing, to spoil my plan. I started to inch my way under it. At last I did so. I jumped to the table, still hidden under the napkin. I

had been fortunate. The glass fell back into place, teetered and straightened without them noticing. I crept from under the napkin and took refuge between two huge howls. Near one was a sharp knife. It was larger than my body, but the bone handle made it fairly light to pick up. I decided that the knife was my only possible weapon. I waited until the noise was at its loudest. The King was shouting above the others and the group was in an uproar. I held the knife like a lance, ran swiftly toward the King and jumped directly into his lap. I hated to give myself away like that, but had I jumped directly to the floor, the fall would have killed me. The King's lap was soft and broke my fall.

I heard his laughter turn to a howl of rage. But before he could grasp me, I ran the length of his leg and jumped again, this time on the board that ran along the underside of the table. It was still a long leap to the floor but I took it in stride. The knife fell and clattered beside me. I picked it up again and started running toward the door.

The guests were howling with laughter again. I must have been a funny sight. Then I knew what caused the merriment.

Not ten feet ahead, barring my escape through the door, was the huge cat that had almost caught me before.

The beast stood its ground, but the gleaming eyes told me that this time escape wouldn't be so easy. I had no choice. Behind me was a whole court of giants who would enjoy pushing a pin through me. Ahead, a chance to fight.

I lowered the knife, aimed for the cat's face and charged.

A little undercurrent of amazement sounded behind me. At least they seemed to be giving me credit for courage. The cat didn't know what to do.

The knife, flashing in the candlelight, had it bewildered.

I didn't slacken my pace, but just as the point of the knife was about to touch the cat's nose, the beast whirled and swatted me with her paw. I went end over end, but came up with the knife still in my hands.

I pointed the knife directly toward the cat, and crouched behind it, making sure I was ready to turn and dash away again should my plan fail. The animal was beyond cleverness now, and rage lighted its eyes. I heard something akin to a cheer rise behind me, and realized that the entire table had become my gallery.

The cat sprang into the air and I switched the point of the knife upward. The animal came down full upon the point and the blade gashed into her chest. A snarl of pain escaped her lips and she toppled over, the knife buried deep. She continued to run about in circles for several minutes, then fell on her side and died.

DURING this time, I had forgotten King Harru. I had cause to remember suddenly, when before I could turn to run once more, he had crossed the room and swooped me up in the palm of his hand. I was keenly disgusted with myself. Here I was once more under the spheroid glass, with only a dead cat for my pains in trying to escape.

However, the interview went somewhat differently. The King stared at me, his wrinkled face more kindly than before.

"Quite a warrior, aren't you?"

I wasn't able to see much humor in the situation.

"I didn't have much choice," I said. The King chuckled.

"Are you in the habit of battling with house cats?"

The question was gently sarcastic.

"Are you in the habit of insulting guests who are inferior to you because of their size and ability to fight back?"

His cheeks started to burn, but I saw that he had taken the point well.

"Perhaps you are right," he admitted. "You seem intelligent enough. Not like the others."

"Perhaps I'm the first 'specimen' that has been brought back alive," I said. "You might find that other planets are as advanced as your own, if you'd give their people the chance to prove it."

The people about the table sat quietly. The King spaced his questions well and spoke slowly.

"Perhaps you are right again," he admitted. "But—you all seem so tiny—so unimportant, that we've never considered you worth troubling ourselves with."

"Size is relative," I insisted. "On this planet, everything is large. To you, it seems normal. I, fighting one of your house cats, am like a warrior faced with a dragon. Yet, on my own earth, I am normal in every respect."

King Harru had swallowed a lot of my insults, but he seemed anxious for more.

"You are giving me food for thought. Taunz," he shouted sharply, "did it ever occur to you that our travelling to other planets and stealing people from them might be a useless and thoughtless waste?"

I turned and saw the narrowed eyes of Taunz staring at me. Taunz who wanted Reeba, and was, in a sense a rival.

"I'm afraid the tiny one has dimmed your thoughts, Harru," Taunz said. "After all, though he fights well against a cat, of what importance is a cat?"

Harru scratched his chin thoughtfully.

"Perhaps you have something there,"

he admitted. "Yet, Reeba wants him left alive, and Reeba has always been clever. I must speak to her. Meanwhile Taunz, take the little one to Reeba's room and leave him with her."

Taunz smiled and leaned forward to pick me up, glass sphere and all.

"And Taunz," Harru went on gently. "See that no harm comes to him. If he were harmed, your punishment would match his accident."

"Yes, Majesty," Taunz said, but there was no graciousness in his voice.

"OUR only salvation is to escape Zurazz and return to your earth."

Reeba sat on the edge of her bed, her head cradled in her hands, eyes closed. "My father was excited by the battle you put up against the cat. I have seen him like this before. At times he seems ready to understand the other worlds. Later, he goes on as always, thinking only of himself and Zurazz."

"But—why," I asked. "Tonight he spoke honestly enough to me. I think I might . . ."

Reeba shook her head. She looked up at me. Her eyes were misty and tender.

"I'm sorry," she said. "Taunz wants to marry me and father loves Taunz dearly. He's giving you to me to play with. It's like satisfying a childish whim."

That hadn't occurred to me before, and I can't say I was pleased. Reeba continued.

"In a few days he thinks I will tire of you. Then you'll become a living exhibit in the Museum of Other Worlds. Taunz will expect my attention and I will be asked to enter the society of Zurazz as Taunz' wife."

I sat on the floor staring up at Reeba through the glass walls of my prison, listening as she tried to explain our plight.

"Reeba," I said suddenly. "I'd—I'd like to say something."

I think she understood. She leaned over and picked up the glass spheroid. She lowered me gently to her knee.

"Never has a vaster ocean separated two people," I said humbly. "Yet, if I can judge by your loyalty, everything you have said about your love and affection for me has been true."

She nodded, smiling rather pitifully.

"Reeba," I continued. "I don't know how we can ever adjust ourselves to this or any other world, but I want you to know how I feel . . ."

"I know," she admitted. "To me, you aren't a midget nor am I a giant. If there is any way . . .?"

I shook my head.

"We are helpless. Unfortunately, outside of books, there is no magic formula that will adjust our sizes to each other."

"Wait!" She seemed to have been reminded of something by my words. "There is one way of escape."

I was silent, waiting for her to go on. Her cheeks turned red and at last she shook her head.

"No Reed, I'm afraid I couldn't do it."

Then, remembering that I knew nothing of her idea she said:

"Taunz is in charge of all interplanetary travel. He has often begged me to take a trip to the outer moons with him. It—wasn't decent of him to make the suggestion. If I could get him away on such a journey, we could dispose of him and make our escape."

I was silent, waiting for her to go on.

"I would have to approach Taunz and cheapen myself by making the suggestion." Tears sprang into her eyes. "Reed, I couldn't . . ."

emiles, living in a strange world. Men and women were all about me, and yet I was only capable of fighting in a battle with a house cat.

"Isn't the space ship where we could reach it without Taunz' help?"

Reeba shook her head.

"Taunz has access to the take off data. Only certain directions are safe. To leave Zurazz without charts would crash us among the outer moons before we had travelled a thousand miles."

"But—why has this power been given to Taunz?"

"My father trusts Taunz," Reeba admitted. "He is trustworthy because he loves Zurazz. We do not travel much. Only a half dozen trips a year. Taunz charts the movements of all moons and supplies necessary information for the little travel we do."

A knock sounded on the door. Reeba placed her hand gently over the glass sphere and spoke.

"Come in."

I heard her utter a pleased cry and her hand flew away from the glass. I could see Shanna's plaintive face. The shy sister stood near the door.

"You—don't mind my coming?"

"No," Reeba said, "of course not. Have the others retired?"

Shanna nodded, and crossed the room and sat down beside Reeba. She was very careful not to disturb me.

"Father plans to destroy the earthling," Shanna said breathlessly.

Reeba nodded her head.

"I thought as much," she admitted. "It sounded very much like him to be impressed by Reed's courage."

"Reed?" Shanna smiled. "Is that your name?"

She was staring down at me.

I nodded.

"Reed Falcon," I said. "Shanna, you've been grand. I appreciate it."

She blushed.

NO CAGED animal ever felt as helpless as I. Here I was amidst en-

"I like you, Reed Falcon," she said. "You seem to grasp that we are only girls and very human, in spite of the terrific difference in our size. The people of Zurazz aren't as understanding as you are."

"Thanks," I said. "But, if you could figure a way to save Reeha from your father's anger, the whole problem would be solved."

Shanna looked very sad.

"I'm afraid I'm not very clever," she admitted slowly. "I love Reeha very much, but I'm little help to anyone."

At that moment, none of us felt very clever. It was about the most unbelievable love affair any man had ever had. Yet, I knew I would never be half so strongly attracted to another woman as I was to Reeha Harru.

BUT I had not reckoned with Shanna. Shanna Harru had that quality which forced her to fight to the end for her friends, and hate her enemies with every fierce little spark in her body. As soon as she found out that Reeha hoped to escape from Zurazz, Shanna went to work secretly. First she insisted that I be hidden away during the day, while Reeha was forced to attend certain functions of the court. Then, on the night of the fifth day, Shanna came to Reeha's room after dark. When Reeha opened the door, I was out of my glass prison and resting comfortably on the bed. It was a grand feeling to be out of solitary confinement, but I could understand none of Shanna's excited speech until I was once more inside. I hurried into the sphere in time to hear her say:

"Tomorrow night. The ship waits, ready for the take-off."

Reeha was terribly excited. She was, it seemed to me, also a little suspicious.

"But, Shanna. There is no flight scheduled. Taunz would have told me."

Shanna laughed excitedly.

"It was to be a secret flight. Father asked Taunz to make a scouting trip of the planets and to tell no one. I overheard them discussing it."

Reeha turned to me.

"Reed," she said quietly. "It is our one chance. Shanna says a plane will take off tomorrow night with only Taunz aboard. I don't know where we can go, but at least we will be free of Zurazz."

The very thought of escape was enough for me.

"We'll take it," I said.

"Good," Shanna interrupted. "I will take you to the ship myself. You should be ready when the sun sets." Reeha shook her head.

"No," she said firmly. "You've been good enough to come and tell us. You'll take no further chance of being punished. Tell me where the ship is and we'll find the way."

Shanna shook her head stubbornly.

"I'm sorry Reeha," she said. "It's the first time I've ever done anything for you and I'm going to do it my way." There, in spite of further argument on Reeha's part, the matter rested.

THE following day passed slowly.

Reeha came for me at sunset and smuggled me into her jacket pocket. I was in a position to look out over the huge city as she made her way toward the space-port. Reaching the gate, she met Shanna and the three of us went into the cavernous hangar that housed the huge flying wing.

Taunz was standing near the door of the flying-wing. He was evidently surprised to see Reeha with her sister. However, he greeted them both and stood quietly by until Shanna decided to make some explanation.

"I understand that you are starting a flight tonight, Taunz."

Taunz nodded.

"You should know, Shanna sweet. I'm surprised that you chose to bring your sister."

Shanna's cheeks blazed.

"Reeba wanted to come with me to watch you take off," she said. "You don't mind."

Taunz still grinned at Shanna. I knew that something had passed between them that I knew nothing about. Reeba also seemed puzzled.

"Where are you going this time, Taunz?"

Taunz turned deliberately to Shanna.

"I don't know," he admitted. "You will have to ask Shanna."

Reeba turned toward her sister, and Shanna's cheeks were red. She stepped close to her sister and her voice sank to a whisper.

"I have always wanted to help you. I heard you say that Taunz liked to travel alone with members of the court. You told Reed, the night I listened at the door. Now, escape, Reeba, while there is time."

She whirled around, whipping a pistol from the folds of her skirt, and fired point-blank at Taunz' chest. A foolish startled expression crept across his dark face. His hand crept upward to his stained jacket and he sank forward without a sound.

"Shanna—Oh! Shanna . . ."

Shanna turned to Reeba.

"Lona and Lura have always bated me. They have been cruel. You have always been kind. Don't worry about me. I want to die . . ."

She turned the pistol on herself and pulled the trigger once more. As Shanna fell, I could hear the sound of heavy footsteps behind us. I shouted to Reeba that we must escape. I could see the shadowy forms of two women rushing toward us from the gate. Reeba saw them also. She stared down at Shanna,

then at the open door of the ship. I heard her cry out in horror at the full realization of what Shanna had done for us.

Then we were in the ship and the door slammed behind us. Reeba rushed forward into the control room. The ship was evidently lined up correctly, as the nose had been elevated to about a forty-five degree angle. Reeba sat down quickly at the controls, drew down two large handles and the flying-wing leaped into the void.

I never saw Zurazz again, for in the darkness we flew upward too swiftly for a last look back at the city.

BUT our problem wasn't solved.

We knew that Shanna had not wanted to come. Nor had she wanted to live and face the wrath of her father and her sisters. There was no danger of being followed, for Taunz alone was capable of preparing the great ships for flight.

It dawned on us both the shame Shanna must have faced in agreeing to take flight with Taunz.

Life during the following weeks wasn't bad. The ship had been well stocked, and Reeba fitted one of the small glass spheroids into her pocket so that I could be with her constantly. We were able to talk freely with each other.

In a way, I suppose we were happy. I, in the knowledge that Reeba would go anywhere and make any sacrifice to be at my side. She, in the satisfaction that we had escaped together and I would be able to return to a free planet.

Reeba's knowledge of the universe amazed me. She took me to Mars, the Moon and Venus. In all these seats of civilization, we sought a drug or device that would cause me to grow large or to shrink Reeba's body to my size.

I'm afraid during the following three years, we became a legend in various

large cities, as the giant bride and the tiny groom. The lovers who had everything but equality of size.

Our search was fruitless. At last the great power of the flying-wing began to die. Our hearts were as eager for each other as ever, but in our minds we knew our search for happiness was helpless.

At last, discouraged and having given up, we headed for earth and that quiet, rugged place where Reeba had first found me.

The flying-wing settled to earth for the last time and we deserted it in a remote section, where, so far as I know, no man has to this day ever located it.

Reeba is happy. As happy that is, as a girl could hope to be, removed from her own way of living, and thrown into a strange land where she must live as a hermit, fighting for everything she owns and trying to hide from the seeking eyes of man.

You see, although I am once more

living on Indian Lake, I cannot bring Reeba here.

True enough, she and I escape for several weeks every year to travel northward where the wilderness is so dense that no one can find us. Reeba kills enough game to feed us well.

We return to Indian Lake, and I am only able to see her when I take the long trek into the lonely valley where she lives.

But Reeba is loyal. She never speaks of being unhappy. She knows I am doing my best and she is content.

Meanwhile, legends of Paul Bunyan's wife persists. Several woodsmen claim they have seen her come to the lake to bathe at night.

It's not a happy life, and yet, not an entirely unhappy one. Rather ironic, I think, that story of Paul Bunyan's wife. The lumbermen at the camp would get quite a laugh out of it, if they knew who Paul Bunyan really is.



RADIUM SLEUTHS

By JUNE LURIE



RADIUM, one of science's most miraculous aids, can be a menace to those who unwittingly come into contact with its rays. That is why scientists have spent so much time developing "radium hounds," devices for detecting the tiniest particle of the precious material.

Radium is always handled in such minute quantities that occasional loss is inevitable. In treating cancer, doctors rarely use more than 100 milligrams—about enough to cover the head of a pin. The amounts are so small that even mixing with powdered salts does not eliminate loss, and that's where the sleuths come into play.

One of these, an electroscope, consists of a piece of gold leaf with one end fastened to a metal support and the other hanging free. When the instrument approaches a particle of radium, the electricity is partially discharged, and the gold leaf begins to drop, then when the instrument is brought very close to the radium, the gold leaf drops back to its normal position.

Not long ago, a tiny silver needle containing \$1000 worth of radium accidentally fell into a pile of soiled dressings at the Presbyterian Hospital in Newark. The loss was discovered only after the dressings had been thrown into the hos-

pital incinerator. The silver container had melted by that time, but since radium is almost indestructible the missing particle was still intact somewhere in the huge fire. When the ashes were cooled, the "radium hound" arrived on the scene. Bushel after bushel of the ashes were placed underneath the instrument. Finally, on the 23rd bushelful, the gold leaf fluttered and dropped. In a few minutes the culprit was caught, and a worried hospital staff breathed a sigh of relief.

Sometimes, when the gold-leaf electroscope is not sensitive enough, a device known as the Geiger-Muller counter is used. Radium rays act on this instrument to set up electrical impulses which are magnified by a loud-speaker and heard as a series of clicks.

Radium, worth 24,000 times its weight in pure gold, is an expensive commodity to lose; especially when the whole United States supply is approximately eleven ounces.

Of 107 radium losses reported, 59 recoveries were made by the "radium hounds" representing a saving in several hundred thousands dollars in cash, and the removal of a cause of death to any human who might unwittingly come near this burning element.



The sphere of light glowed brilliantly



BATTLE *of the* **GODS**

By ROG PHILLIPS

**Army, the mutant, faced the
might of a great nation alone;
then real gods came to his rescue!**

GENERALISSIMO KARNs was sweating. He inserted a finger under his collar and slid it around his neck with a sort of absent-minded desperation. The broad shoulders with their layers of fat evenly distributed over them did not look exactly like muscle as he slouched uncomfortably in his swivel chair listening to the playback of his latest radio speech to the nation.

Instead, he looked more like what he really was—a fat leech of an opportunist who would not have been above slitting his landlady's throat if he had thought her successor would lower the rent if he had a landlady and if she wouldn't lower the rent.

On either side of him in various poses of uneasy semi-attention were the members of his elite corps, and in front of his desk a phonograph was repeating the speech he had just made.

His voice as it came from the machine was alive and dynamic. The kind of a voice to sway the masses. It screamed at the right places, pleaded at the right places, demanded with the right emphasis, and altogether, as any dictator's voice should, gave the impression of inflexible will and invincible power.

"If our Canadian neighbors cannot find this subversive broadcasting station it is because they don't care to," the phonograph blared. "It is time their decadent democracy ended. It is time America became really America and the Canadian sore be erased from the face of the globe."

So far the speech was all right. Propagandists had been busy in Canada for two years now. Their work had been unaccountably successful. There was now an underground organization in Canada strong enough to insure the overthrow of the government. The plans were well laid, too. Even the flight of the defunct dictator's two chief aides to Canada had been "arranged" by his agents. Their whereabouts were known. Even the location of the "subversive broadcasting station" was known.

The whole thing was an engineered situation, designed for an "incident."

Yes. So far the speech was perfect. "We have been patient." The voice became that of a long-suffering, just

man. "We have cooperated with this democracy. We have permitted it, an inefficient and archaic state, to live and flourish. Live like a leech on the good will and industry of the United States of America."

His voice rose to a screech at the last four words. There was a pause as he hunted for his voice. Then in a calm voice the speech went on.

"Why?" It was repeated dramatically. "Why?" A pause. Then, "Because America is tolerant of others. Tolerant of those backward peoples who cling to obsolete systems. Tolerant, but longing to reach out like a father and teach them to stand erect."

Then came the awful words. The words that destroyed the whole effect of the speech. Slowly, calmly, the voice of the dictator spoke.

"But perhaps we have not been tolerant enough. Perhaps we should have cooperated more and not encouraged the subversive elements of our neighbor to hinder and undermine their government in an effort to discredit it and bring about its eventual impotence."

BELIEF and horror painted a picture on Karns' face that would have pleased and satisfied Arnold Coates, if he had seen it, for he was the author of that "insane" utterance that had been broadcast to the world through the lips of the dictator. He had no time for such idle pleasure, however. His pleasure had been in uttering those words through the lips of the dictator and in knowing exactly what the consequences to the plans against Canada would be.

Dictator Karns sputtered. "How could I have said such a thing?" Puzzled wonder spread over his face. "I don't even have a recollection of having said it!"

"Perhaps," ventured one of his satellites, "you were possessed."

"Possessed?" Karns asked incredulously. "Hogwash!" He rose indignantly and stormed out of the room, giving the impression of a steam roller as his massive body moved swiftly to keep up with the angry stride of his legs.

HOWARD BROWN stood before the window, gazing out across Lake Manitoba. The moon, reflected in the water, jumped around, its outlines wavering crazily, while its twin, low in the sky, seemed to move slowly and majestically behind the translucent lacework of clouds.

His face was bitter. The graying hair around his temples, badly in need of trimming, gave the back of his head the appearance of belonging to an artist. But his face as he suddenly turned to speak to the other man in the room was not that of an artist, but rather that of a calm, experienced manhunter.

"I have a strong feeling, Max," he said to the second occupant of the room, "that we should get out of here. And quick."

"Why?" protested Max. "Where could we go? These people are the only ones we can trust. You know that."

Howard frowned. "They seem to be. It is true that they could have turned us over to the American authorities a hundred times but have not done so. It is true that if it were not for them we would have been caught and shot."

He chewed on his unlit cigar angrily. "But in spite of all that I have a hunch they are only aiding us for some sinister purpose of Karns' scheming mind."

"Oh, I know you think I'm nuts," he anticipated Max's reaction to his words. "Let's just call it a hunch that makes me feel that way, but I can't help remembering—"

His eyes took on a faraway look as he walked over to the liquor cabinet

and poured himself a generous whiskey, adding just enough soda to make it tickle his nose as he sipped it.

"Remembering what?" prompted Max.

Howard shrugged his shoulders. "Oh, just how uncannily my hunches have always been right ever since—"

"Ever since your hunch that the doctor poisoned the boss?" Max completed his sentence for him.

"Yes," Howard agreed. "If I had not had that hunch I would not have taken the rest of the medicine with me and had it analyzed. We wouldn't have had any proof."

"But you had a hunch we were to trust these people from the Canadian underground at the start," Max protested.

"I know," Howard said wearily. "But I can't help thinking that Arny—"

"You know damn well Arny wouldn't turn a finger to help you in any way," Max said heatedly. "Anyone else in the whole world, yes. But you who personally killed every mutant in the world except three of them? Oh, no. By no stretch of my overactive imagination can I conceive of *that* happening!"

HE TOOK a last, angry drag on his cigarette and nervously tamped it to pieces in the ash tray. "I can't even conceive of George helping you, since you are so damned noble and right in all your motives. In fact, I can't imagine either of us being important enough now to be of any use to either of them. And since they are mutants they are too logical to waste time on anything of no use to them in their battle against each other."

"I'm not so sure," Howard said slowly. Suddenly he made up his mind. "I'm going to assume that my hunch is

a warning Army has given me. My whole life has been dedicated—not to killing mutants for the sake of killing them, but to save humanity from any mutant who might threaten it. I am at the point now where I can do humanity no good. I am now forming a truce with Army. If he knows I am making this truce he will guide me to him. So I am leaving here. Tonight. If you want to come with me, okay. If not, stay here under the protection of the Canadian underground. I have a bunch that I can go straight to Army's hide-out."

Max nodded his head thoughtfully. "Perhaps you can," he agreed. "It might be a good idea, too. I'll stay here. Then one of us will stay out of a trap. If this is a trap I lose my life. If your hunch is a trap you lose yours. Since they can't both be traps one of us will live to bring Karns his just deserts. I can continue the broadcasts alone."

Max and Howard shook hands gravely. They both knew it was goodbye. Then Howard opened the front door casually and stepped out, saying over his shoulder to Max for the benefit of anyone listening, "Guess I'll take a walk down to the beach before turning in."

Glancing neither to right or left, his hands in his pockets, he slouched along the short path to the sandy stretch of shore below the rambling two-story lodge that was the headquarters of the Canadian underground and contained the radio station that had been broadcasting their speeches to the American public.

Max watched him through a window until he was lost to sight beyond the slight bend in the path. He should reappear shortly on the beach, but instead, Max knew, he would slip away through the trees, round the lodge, and

go straight south to the border. Nevertheless he waited and watched to make sure.

Finally he turned away from the window. His face devoid of expression he stretched out in a rustic, upholstered easy chair and started to read a book.

ARNOLD COATES was bent over a microscope. His fingers manipulated a set of levers, and his eyes watched through the lenses as a rough looking set of jaws appeared on the microscope slide and scooped up a black dot laying there in the hardened slide coating.

When the jaws were raised from the slide he slid the glass plate out of the microscope and substituted a fine glass filament, coated with a sticky substance. Then, watching through the eye piece again, he manipulated the levers until the black dot was planted on the filament.

Finally he straightened and turned to face the young lady who had been quietly watching his action.

Army was now twenty years old. His slight figure of more youthful days had shot up and spread out until now he looked at first glance like any normal twenty-year-old man. Only his head looked different.

His face had grown, but his head still looked too large. The vast expanse of forehead still dwarfed his eyes, nose, and cheeks, suggesting a caricature of William Powell, a movie actor of the nineteen-forties, whom he greatly resembled in every respect, physically.

His facial expressions had grown more spontaneous and human, but at the same time his eyes had grown even more expressive and indicative of hidden power than they had been when first he had climbed out of the hay in a barn to meet this girl who was now his wife.

He flashed her a smile, exposing his even, white teeth. "We have him caught, now," he telepathed to her. "Now we'll put him in the psyche tube grid and see what we shall see."

Suiting his actions to his words he lifted the top of a cabinet and pulled a strange looking tube out of its socket, unscrewed its metal cover, exposing a complicated but familiar looking array of filaments, screens, and plates that any radio bug could have identified as the "innards" of a radio tube.

Carefully he inserted the glass filament upon which was trapped the black dot into a small, short metal tube between a grid and a plate. Then he screwed the case back on the tube and attached it to a vacuum pump.

"How can you be so sure that that particular black speck is a secondary structure of a human?" asked Amelia as the vacuum pump started its work.

"Oh, it's very simple," Arny shrugged his shoulders teasingly. "You see, the weight of a passive secondary structure is out of proportion to its inertial mass. All I had to do to trap it was figure out a set of eliminating conditions. I incorporated these into an electrical machine, into which I force air, liquids, or finely divided solids. Ordinary stuff will take certain paths through the machine, but a secondary structure, due to its special properties, will take a special path and wind up stuck in the glue on the microscope slide."

"Oh," Amelia answered, smiling. "Very simple." She frowned in thought for a moment, then asked, "But what are you going to do with it now that you have caught it?"

ARNY nodded his head toward a long, complicated mass of equipment on a bench against the far wall. "I am going to send it to school!"

"To school?" Amelia echoed.

"Yes. That mass of stuff is a college education, all on recordings. It will take this fellow a month to go through from one end to the other. When he comes out he will know all about himself, and all about me. Then he can either join my 'staff' or go about his own business, as he chooses. So far they have all joined my 'staff'."

"Your staff? What's that?" asked Amelia.

"I'll show you tonight," Arny replied. "Now tell me about the folks. How are they?"

"Fine," Amelia answered, smiling affectionately at him. "They want to know when you are coming down out of this cave in the side of a mountain and visit them."

"Why didn't you bring them with you?" Arny countered. Taking her in his arms he kissed her.

Leaning backward and taking his face between her two, slim hands, she asked wistfully, "Are you ever going to find time to spend with your wife and family, or are you always going to be peering through a microscope, or building another machine that only you know how to build?"

"I don't know, darling." His expression became as wistful as hers. "Sometimes I think I am nearing the end. Then something comes up that puts the end of things even further away than it was at the beginning."

"I know," she answered bopelessly. "I should be content that I have Arny junior, and that he is a true mutant, and that mother and dad are still hale and hearty. But don't you know I love you and want to be with you?"

"Ah knows it. Deed ah knows it," he said, trying to change her mood. "This one's ready now. Let's wake him up and put him in school. Then we can be as free as the breeze for the

rest of the afternoon."

Suited his actions to his words he disconnected the radio tube from the vacuum pump and inserted it in the socket on the top of a small cabinet. In a moment it lit up feebly.

ARNY donned a helmet with mysterious looking gadgets attached to it, connected by a cord to the cabinet. Amelia prepared to listen to what went on by telepathy.

"Hello there!" Arny telephated. There was no answer. He grinned at Amelia and repeated his message.

Finally a drowsy, slurred voice sounded to the telepathic, mental ears of Arny, which Amelia also heard through her contact.

"Hello yourself," it said. "What do you want? Go away and leave me alone. Don't you know you have to sleep till judgment day?"

"This IS judgment day," Arny said with a chuckle.

"No it isn't," the voice replied emphatically.

"How do you know?" Arny asked.

"You didn't wake me by blowing a horn. That's how. And don't try blowing one now because I know you are a fake." The mental equivalent of a snort followed this piece of advice.

"Do you know where you are going now?" asked Arny.

"I'm going back to sleep. That's where," came the reply. "And don't wake me again. I don't want to wake up till Gabriel blows his horn. I was a righteous man when I was alive, and I don't want to risk spoiling my record before judgment day."

"You're going to school," Arny answered his own question. "In school you won't be able to sleep even if you want to. So get over that idea. I am going to put you in school now. You

can't help yourself, and if you were able to escape you wouldn't need to go to school. The only way you *can* escape is to learn all you can in school. That is your only way to escape."

With that Arny shut off the current, pulled out the radio tube, and stuck it into a hase inside the end cabinet on the long, education machine. He watched it light up. Then he blew a kiss to the unconscious speck that had been the soul of a man at some unknown time in the past, and gently replaced the cover of the cabinet.

"Doesn't it seem funny," Arny remarked to Amelia as they left the laboratory, "That in all the history of mankind no one has ever hit on the truth; that the soul is a perfectly natural thing? In all ages they have cloaked it in mystery and supernatural disguises. A ghost appears, and right away they forget all about the 'ghosts' on a moving picture screen, the 'ghost' that steals into a radio and comes out as a voice, and the thousands of other 'ghosts' that simply scream at them every day to understand that their own 'ghost' is not supernatural, but a normal product of human reproduction."

"What is it made of, Arny?" Amelia asked. "You were trying to figure that out a long time ago. Have you found out yet?"

ARNY frowned. "Not for certain. I know that its skeletal structure is a tremendously complex hydrocarbon molecule, containing perhaps twenty billion atoms of oxygen, hydrogen, nitrogen, and carbon. There may be other elements in its structure too. I haven't been able to determine. I know that its outer layers are so constructed that if any field increases to a certain strength they shift their electrons and protons to repel the source

of that field. This repelling reflex is so perfect and so instantaneous that I don't doubt the soul could exist in the photosphere of the sun, or in the flame of a carbon arc, or even in the heart of an atomic explosion, without any danger of destruction."

"How do you know that, Arny, if it is indestructible? You couldn't take an ounce of souls and analyze their composition like they were ordinary matter, could you?" And Amelia laughed at the picture of an ounce of souls. Arny laughed too.

"No. It has to be done indirectly. By reasoning. The soul comes into existence sometime in the development of the child embryo; probably about the time the skin on the back folds under and becomes the spinal cord and the brain. Since all this complicated development began with one cell, the egg, and is determined by the gene pattern of that cell, it follows that the gene which will result in the creation of the soul is in that egg cell. Right?"

"Right," agreed Amelia.

"Well," Arny went on, "the soul could not contain any elements that were not taken into the body, could it? So it has to be an organic molecule made of oxygen, hydrogen, nitrogen, and carbon, with maybe a few other atoms thrown in, but not necessarily. See?"

"Yes, I see all that," Amelia agreed. "But you said in the lab that the soul has its weight out of proportion to its inertial mass. What do you mean by that? And also, you say that its chemical structure is only its skeletal structure. It must be its whole structure, mustn't it, since there isn't anything else that could go into it."

"Yes, there is one thing other than matter that could go into its structure. Ether! The universal medium that pervades all space, whether there is matter

in it or not. I have been puzzling over that a lot the past month, and I am beginning to see how it could form a structure similar to that of matter, but almost infinitely smaller, within the protection of a skeletal structure of matter."

"Tell me more about it," Amelia urged.

"I can't just yet, Amelia," Arny said slowly. "You see, it goes to the root of the problem of just what reality is. What the stuff the universe is made of really is, and how it behaves. I am on the track of it, all right. But I must build up a mathematical technique to use especially for that problem, if I am to know for certain that I am right."

"Oh, yes," he added in a voice that indicated he wanted to drop the subject. "About its behavior. When any matter is centrifuged, the parts having the greatest inertial mass go outward, while the lighter stuff stays in the center. Right? And this is independent of gravity. But inertial mass and gravitational mass have a fairly constant ratio in ordinary matter, so that the stuff that goes out in a centrifuge always weighs the most per unit volume. In other words, has the greatest specific gravity."

"That's right," agreed Amelia.

"Well, a secondary human structure, or soul, as it is commonly called, will centrifuge out quicker than uranium even, indicating that it has a very high inertial mass, but is affected less by gravity in a trajectory through a vacuum than even a hydrogen atom!"

DURING this talk they had reached the exit to Arny's cave hideout and laboratory. It wasn't really the exit, for egress from the hideout was made through an abandoned mine tunnel on the other side of the mountain. This was more properly the lookout

station.

From this vantage point the entire valley for fifty miles appeared in diminutive outline. The cars, creeping along the ribbons of highways seemed like ants. And it would have taken a keen eye to detect the small opening near the top of the naked granite mountain side where Arny and Amelia stood silently, watching.

Arny had chosen this spot for several reasons. The mountain was free of mineral deposits that could affect the accuracy of his machines. The entrance to his hideout was almost completely inaccessible, and could be made completely so with one stick of dynamite. And finally, there was a natural chamber in the heart of this mountain that was large enough to house all his equipment, storage tanks for an enormous supply of gasoline, water, and other necessities, with still enough space for a hydroponic garden to give him a perpetual source of fresh vegetables. The determining factor in his choice of this site, however, had been the fact that here he could escape the continual murmur of telepathic sounds that existed in every settled community.

HOWARD BROWN was crouched in the center of a clump of bushes, peering cautiously at a lookout station a hundred yards away. For two days now he had been attempting to cross the Canadian border into the United States.

His lifetime of experience as a man-hunter for the murdered dictator had made him wise in the ways of manhunting, and thus wary of traps.

Every quarter of a mile along the entire border there was a lookout station. Each lookout, he knew, was in constant contact with a headquarters, so that if he were shot or captured the fact would be instantly known and a mobile drag-

net would soon pick up the culprit. And every foot of the long border was under the eyes of someone every minute, day and night. Not even a rabbit could cross the border undetected.

So for two days Howard had been hiding and watching, hoping to discover some way of getting across undetected. It seemed hopeless so far, so he was waiting for a break.

He knew that if he shot one of these lookouts, it would serve as an excuse for an invasion of Canada. His only hope, so far as he could see, was in one of the searchlights burning out. Even that was slim, since each station had a second one in case of emergency.

Suddenly a voice sounded peremptorily in his mind. Too strongly to be his own thoughts. It said, "Walk across now. Don't run or make any sudden movements."

He hesitated, but the voice repeated its order. He shrugged his shoulders and stood up, expecting to be shot as soon as he exposed himself. Nothing happened, so he slowly walked across the open strip that had been cleared along the border.

He looked curiously up at the watcher in the lookout tower. The watcher was alert, looking up and down his stretch continually. Several times his eyes seemed to take in the figure of Howard, but not once did he seem actually to see him.

Finally he reached the protection of the trees and shrubs on the American side.

That this blanking of the watcher's mind had been the doings of Arny, Howard did not doubt. It filled him with respect for the powers of that young mutant whom he had hunted in order to kill for so many years. And it convinced him that his hunch had been right, that Arny did know he was coming to join his cause.

For a moment he felt a twinge of regret that he had not insisted more on Max accompanying him. He turned half around, wanting to retrace his steps and get Max. Then realizing it would be suicide he plunged ahead through the forest, sure at last that he would be able to go directly to Army, wherever he might be.

CPENTA ARMIJ, Goddess of Haot-saiti, in the arc of Spe-ta, was bored. For over three thousand years things had been running so smoothly that she had had no least taste of excitement. Her three hundred and seventy-two billion, four hundred and eighty-six million, three thousand, two hundred and forty-six subjects were trained and educated to the nth degree. There had been no derangement in the functioning of her realm for eight thousand years.

Due to the stellar agreement of the Nirvanian Republics written into law over eight hundred septillion cycles¹ before, no new subjects could be added to her domain. And since none ever died, the population of Haot-saiti had remained stationary ever since its recognition as a full fledged Nirvanian Republic twelve hundred cycles before.

Cpenta Armij rose from her lounge. Its transparent, rose-tinted substance quivered rhythmically as her movement disturbed it. She stood poised for a second on the pale blue crystal disc at her feet, then vanished. At least it seemed that she vanished, but in reality she had just departed at the speed of light.

Her destination was a vast swirling group of her subjects, some three million miles distant. They were engaged in the sport of forming a new solar system.

Already the central sun was formed.

¹ A cycle is about three thousand years.—Ed.

It glowed fiercely, its atomic fires newly kindled. And three planets circled lazily, just out of reach of the hungry tendrils of its photosphere.

Here and there throughout the interstellar reaches in all directions were swirling groups of god-like men and women, circling swiftly in ever decreasing spirals, forming vortices in the ether to suck in the drifting atoms and chunks of matter that fell within reach of its suction.

Such bits of matter are strewn throughout the universe, thrown off from exploding stars, escaping from the atmosphere of dwindling planets, and formed constantly by the collision of light atoms in space.

In this part of space there was enough in one cubic light year to form a fair sized planet. And the swirling motion of the playing hosts sucked it into a dense mass which would later be forced into a stable orbit around the new sun.

Cpenta came to a stop within call of all the players and sent out a clarion call. Her smooth, white throat rippled as the melodious cry sped from her red lips.

Instantly the swirling groups sped to her and formed a semicircle around her. The ether pulsed with their excited whisperings, for they had long known that their mistress was bored and knew that this call meant that at last she had made up her mind to have some excitement.

HER melodious chuckle quieted them. "Yes, my children," Cpenta Armij said. "At long last I have decided to do something. As you all remember, some thousands of years ago we journeyed to the red star, Earth.

"Then, it was in a state of barbarism and savagery, and its inhabitants were for the most part hardly human in form. But now they must be nearing

the crossing of the roads, and I am thinking we should go and lend them a hand. It would be a pity if they took the wrong turning and destroyed themselves.

"I am asking for volunteers to accompany me. You can't all go, so ask yourselves which of you would be content to remain. I see that you have the new solar system well started. I will not need more than a hundred million. Indeed I cannot take more than that in one ship. So decide among yourselves which will stay here and complete it."

So perfectly were the thoughts and desires of her subjects coordinated, one with another, that immediately one hundred million sped forward to surround their Goddess, the rest remaining where they were.

Near at hand, drifting idly in space was a giant Seraphim, a mighty ship, designed to hold the hundred million in comfort. The work of storing provisions for the trip began at once, and in less than a day things were all ready for the departure.

Slowly the giant ship began to move forward. As it gathered speed many of those left behind darted ahead of it, circling back, whirling around the great bulk, and joyfully wishing their companions who were lucky enough to be aboard, an eventful journey.

Finally the Seraphim reached the border of Haot-saiti, already plunging onward at half the speed of light. The followers dropped behind, and the last that could be heard was the song of adoration to their queen.

This song was not of words, as humans know words, but the rhythm of harmonious thought ripples, swelling from the billions of throats of beings whose spirit was dominated by love for their queen. A love that was in each case over thirty-six million years old.

To an earth man with his paltry fraction of a century of existence behind him, this figure seems fantastic.

Yet in the etherian realms there are Chiefs who have lived longer than time can be measured. Countless billions of cycles ago they were incredibly ancient. Born of races on planets which flowered and were fruitful, and dissolved into oblivion in a time infinite cycles ago, in a place in the universe an infinite distance from where the small, red planet, Earth, is floating; they are still as youngsters to other infinitely older, dwelling in the Distant Places.

CPENTA ARMIJ, from her throne at the helm of the great ship, cried, "Loo Gam! Raisi! Ho-a-ha! Let us have a drama. You three are past masters and mistress of the art. You, Raisi, Goddess of Eadras, choose your cast. And you, Loo Gam, hero of a thousand adventures, choose also whom you would have support you. And you, Ho-a-ha, master of logic and cunning, shall be the villain, for only your mastery of cunning, acquired as underworld god of the central sun, Lu-wow-lu, for twenty thousand years, almost defeating in the end the etherian hosts of Owks, himself, the great Orian Chief, could stand for a time against the nobleness and rightness of a hero."

Ho-a-ba stepped forward. He was a tall, athletic man, with satiny smooth complexion, dressed in a tight-fitting scarlet suit, framed in a crimson-lined, royal purple cape. He bowed low.

"Ob, Cpenta, my Goddess, I am your bumble slave in all things. Yet I still believe that I could have defeated my ancient and experienced foe in the battle of Lu-wow-lu if I could have had a supporting cast chosen from the ranks of your subjects, instead of the imbecilic and cumbrous spirits that were my slaves, who, believing that corporeal

experience was the All and that to be ever-present in many places was God-like, reincarnated thousands of times, murdering the self-awareness, the ego, of the natural spirit in all their victims with false knowledge so that they could incorporate still another soul into their loose jointed spirit. Therefore, I now ask—"

All eyes turned to the figure that entered the ship and halted before the throne of Cpenta Armij. By his dress the newcomer was a herald. He prostrated himself before the Goddess, Cpenta, and cried, "All hail, Cpenta Armij, Goddess of a thousand etherian hosts, Chieftaness of Haot-saiti, greetings from Ami, fledgling Goddess of Earth, who sent me."

"Arise, oh herald from my sister on Earth," Cpenta replied, "and tell me: Is Earth in such bad shape that she needs my help?"

"It is worse than bad, oh high raised Elder Goddess. There is something new, beyond the dreams of the greatest of all Dreamers. There has been a mutation in man, the first to occur on countless millions of worlds. There are two mutants, Arnold, a high raised one, and George, master of evil. Beside them my Goddess, Ami is herself as one who is stupid and inexperienced. Yet they have existed barely twenty earth years!"

There were exclamations of interest and awe that such a thing could happen. The herald continued:

"The mate of Arnold is herself a mutant, and is a veritable goddess herself, being righteous and just in all things. Yet they are no match against George, who has enlisted the aid of under realms, organizing and ruling them. By their aid he has killed every ruler of every nation and put in a ruler of his own. Ami needs help, or it is certain that Earth will end her days suddenly

in the flame of atomic battle."

Ho-a-ha shouted, "A voice, oh Cpenta. A voice."

CPENTA ARMIJ turned to him and nodded her head thoughtfully.

"Remember, Cpenta, my chieftaness of thousands of cycles, my words before our interruption? I ask now that our drama be postponed until we reach the red planet. Then I choose for my supporting cast—" He paused and looked around dramatically. "George and his slaves, the rulers of Earth."

Cpenta nodded her head, smiling in admiration. "You know, oh Ho-a-ha, that you can't win. Yet I admire your choice. It will make a lesson for Earth mortals for all time, not only for those of the surface, but for those of the caves, and those of the high raised plateaux of her heavens. I accept."

She did not see the sudden gleam of triumph that appeared in Ho-a-ha's eyes. Nor did she see, as did he, that her acceptance of his desire to battle against her freed him of all bondage to her forever, and that henceforth he was free to choose a kingdom of his own, taking as his subjects all those of Earth who would accept him as a leader, binding them so securely to his destiny that they would be forever his.

Nor did Cpenta Armij know of the secret race of the earth, living in caves under its surface, wise in the use of machines long forgotten, of incredible power for destruction.

Ho-a-ha bowed low, exposing his perfect white teeth in a broad smile. "Then I beg leave to depart, so that I may speed ahead and get my hosts ready," he paused and glanced slyly at Loo Gam and Raisi, "for the battle of the Gods!"

"But Ho-a-ha," the Goddess, Raisi, spoke up quickly, before he could leave. "Your hosts will be inexperi-

enced and relatively helpless against us. Would you not rather take your choice among those of us here to aid you in the battle?"

"That I cannot do, oh High Raised Raisi. There is within my spirit a dissatisfaction and an unsatisfied ambition."

Cpenta Armij smiled to herself, hiding the smile behind a carelessly raised hand. "You still think you might have won?" she asked.

"No, Cpenta," Ho-a-ha replied. "I concede that by no remote possibility could I have won. But at the same time, I believe it is possible to win this time. There are two different factors now, in the present case. First, I am not an earth bound spirit, but have thousands of years of experience and complete control of all my faculties. No band of dero could revolt or even plan treason against me without my knowing it at once. Also, I will have at my command a mutant with sufficient intelligence to carry out my wishes, however complex the means."

"I see, Ho-a-ha," Cpenta said slowly. "Very well, then. It will be an interesting study. Never since this frame of time has an etherian led a band of planet bound spirits. And never has there been a mutant to do the bidding of a false god. The combination of the two factors should prove history making. You may take your leave when you wish, and may you prove as worthy an antagonist as you have Lord of my realm."

Ho-a-ha bowed low from the waist. Cpenta Armij nodded her head in acknowledgment. Then suddenly Ho-a-ha was no longer there.

FOR two days he sped, as fast as light, and sometimes even faster, taking advantage of an ether drift. At last he reached Chinvat, an ionized

layer just inside the moon's orbit, burst through, and paused to survey the world which was to be the battle ground for the greatest battle of Gods of all time.

He smiled in satisfaction. There were dozens of heavens of stupid false gods, ready for his plans. There were billions of dormant souls who did not know they were the secondary structure of a dead person, but believed they were still alive. There were other billions who did not even have an awareness that they still existed. And there were millions of professional reincarnators who held thousands of individual souls in their spirit complex, holding them by the fiction that they were each one aspect of the conscious or subconscious mind of a very old and very wise spirit.

As the Earth rotated below him he picked out Arny in his hideout and George in his. He studied both as he considered his course of action. In all it took him less than three hours to complete his survey. Long ago, in his elementary training in etheria he had been taught to carry thousands of independent trains of thought without confusion, being equally aware of all, and to separate and interpret thousands of simultaneous incoming thoughts at the same time without confusion.

And while he hesitated and planned, his figure slowly underwent a change. A circle of fire appeared above his head. His clean shaven face grew a beard. His scarlet dress became a white robe. And his trim red boots became sandals.

His face underwent the most remarkable change. It became international. To each race of Earth he would appear as a native—but idealized.

Quickly he calculated. In two days the Seraphim would reach the borders of Chinvat. It would take another day

for Cpenta Armij and her hosts to map a plan of action. He must be ready to do battle in two and a half days.

It would be easy to get ready. Much easier than he had expected. Most of the spirits and living people of Earth believed a savior was coming. They would accept him, as would even the false gods, as that savior. He would make a try at winning over even Arnold and Amelia. And through them he could construct machines to break up the forces Cpenta would bring into play.

In the end, if necessary, he could destroy the Earth to bring the culmination of his plans out successfully! With a mirthless chuckle he sped earthward toward the area above Europe.

GENERALISSIMO KARN S was sitting at his acre-sized desk, his stubby hands folded comfortably across his middle. Across the room his television receiver was tuned to the private wavelength of the world's ruler.

Premier Kolh of England was just finishing a long speech to the members of the British parliament. It was cut off hastily, as if the technician had been impatiently waiting for the Premier to close his mouth on his last word.

The face of a European announcer appeared on the television screen. Rapid words came from the speaker.

"Something unexplainable has just happened over Europe. I say over Europe because it was seen by vast numbers of people in every country.

"A giant figure of the legendary Christ appeared in the sky, surrounded by large numbers of winged, human figures. And his lips were seen to move as a voice was heard. This voice, in every case speaking in the native language of the hearer, said—and we emphasize that its exact words have been

verified independently in many languages, and by thousands of listeners—'I am the Son of God, returned to save the world and rule it by divine power. Believe or perish.'

"I, your announcer, saw this myself. And although pictures were taken the figure did not register on the film. Recordings of the voice were taken, and although the voice could be clearly heard it made no imprint on the microphone.

"I repeat that this incident has been verified by thousands of witnesses in every detail. It was no hallucination. Yet, what its nature could be, or its meaning—that is for you to guess yourself.

"That is all until further developments arise."

Generalissimo Karns was sitting in his chair behind his desk when the announcer's face vanished from the screen. His mouth was hanging open in amazement.

Suddenly, between his desk and the radio, a figure materialized. From his childhood training in the religious superstitions of the people he instantly concluded that it was that of the Christ.

But he was beyond even the ability to rise. So he just sat there, his jaw dropping lower than ever.

THE Christ figure spoke. "Generalissimo Karns. The day of judgment has come to you. I know every secret of your innermost soul. I should cast you into the depths of Hell. Yet I have need of you."

The figure paused, and strode slowly and silently to the desk, where it leaned forward, resting the palm of one hand on the desk surface.

"You must decide instantly. Either you are for me or you are against me. Go to that radio and announce to your

nation the truth that I, Christ, have come in power to rule the whole world, and that from this time on your government is Mine, and that My word is law. Do that, or this night you shall enter eternal torment in the lowest Hell."

Karns began to sweat. Huge drops of moisture gathered on his oily face.

Suddenly the figure before him changed. It was his own fat form, dressed in his own special uniform. The voice was his, down to the least overtone.

"You cannot hinder me," it said persuasively. "I can take your place if I choose, and none will be the wiser. It is only my desire to offer you a chance for repentance and atonement for your sins that prompted me to appear and offer you a choice. Act now, before it is forever too late!"

Karns rose unsteadily to his feet, circled the desk cautiously and picked up the microphone, pressing a red button which instantly cleared the wires and switched every broadcasting station in the country to his office.

His mind went blank as he began to speak. He did not know what he said until the next day when he heard the rebroadcast.

GEORGE, the secret ruler of Earth, in his lab below the building, was aware of this drama going on in Karns' office. He recognized at once the alienness of the mind of this being who was hoodwinking Karns, and the threat to his own ambitions.

Suddenly with the force of a physical blow the realization came to him that of course there would be extraterrestrial entities of incredible age and power, against whom he would be as a child.

With the realization of this obvious fact his mind began to analyze every implication and possibility. Open hostility would be fatal. Open alliance with

this being might lead to something greater than mere rulership of Earth.

So when the white robed figure materialized in the lab George met it with open arms and great enthusiasm.

HO-A-HA saw through George's plans easily and smiled to his inner self. The old sucker game would work beautifully. Let George think he was fooling him. Dangle bait always just beyond his immediate reach, and he would have a faithful ally as long as he needed him.

"George," he began, spreading his arms with palms forward, in an expression of frankness, "I have watched you from my heavenly throne and found you wanting. Yet you have many saving graces. You have united the world, saving it from bloodshed for many years. You have laid plans to continue your service to mankind throughout the ages. Ignorant, of course, of my second coming. In many ways I admire you, and am willing to overlook your past sins if you will sin no more and serve me faithfully, commanding all your followers to do the same."

George bowed low. "In great humility of spirit I thank you for your mercy. My greatest sin was not realizing your existence." He looked into the glowing eyes of the figure making a mental resolution to learn the trick of image projection and went on. "From now on I am your humble servant. I ask only that you teach me all I can learn. I wish to be more like you all the time, and that will be my life from now on. To learn to be like you in every way."

The figure of the Christ smiled slowly. "Your deeds will indicate the sincerity of your words. Shortly there will be a battle. Satan, in the form of a woman calling herself Cpenta Armij or Raisi, or in the form of a man call-

ing himself Loo Gam, will come to do battle. It is written that he shall fall. Satan is the master of liars. He is also greater in power than you. It will take all your efforts and mine, and the hosts of the living and dead of My kingdom to defeat him.

"I will leave for the present," the figure went on, "But will return shortly to teach you things you should know. While I am gone do what you must to prepare the world for the coming battle."

Suddenly the figure vanished. With a speed approaching that of light Ho-a-ha sped to Army's mountain hideout.

A RMY, Amelia, and Howard Brown had been sitting around the radio watching and listening to Premier Kolh, of England. Howard had arrived early that morning. A hot bath, a couple of good square meals and a nap had made a new man out of him.

The cigar Army had provided was the finishing touch to a perfect day. Howard was thinking, "If I die in the next five minutes, it will be with no regrets. I am perfectly content."

The announcement of the appearance of Christ over Europe brought the three of them out of their seats with amazement and excitement.

"I'll bet that is some of George's work," was Army's first reaction.

"But it couldn't be!" exclaimed Amelia. "He already rules the earth. This would be meaningless, coming from him."

"I don't know," Howard said thoughtfully. "He may have discovered something and be laying plans for a new consolidation that includes religious domination and open dictatorship for him."

Army smiled. "Let him come here. It may be that he thinks I will fall for this new line. If he enters this hideout

in spirit, that is, if he can disengage his secondary structure from his body and travel at will like the spirits of the dead, and comes here, he will never leave!"

"Do you think that is possible?" asked Amelia.

"Of course," Army replied. "That is the only way you can take over another person's bodily control. We have done it at will, often, but didn't realize we had actually left our bodies."

He walked over to a panel against the wall and pressed several buttons in a rectangular array of pushbuttons. "That is a special combination something like the combination to a safe," he explained. "If I had pressed certain buttons no spirit could enter this place. I've fixed it so that he can enter but not leave."

"How can you prevent a secondary structure no larger than a microbe from leaving here?" Howard asked.

"By electrical fields. A certain charge makes an object as impenetrable to a spirit as it is to a man. That is how I can confine spirits to my 'college' and force them to learn."

"But I thought from your explanation that they could pass through it when they learned how," Howard answered.

"Not the field that will be set up now!" Army said laughing. "No spirit, however smart, could pass through it!"

Suddenly the figure of the Christ appeared in the center of the room. An ethereal light seemed to emanate from its white robe. Its halo had brightened until it seemed almost incandescent. The right arm raised in the universal gesture of peace, and the figure spoke.

A RNSOLD, My son. Of all the people of earth you are the only one without blemish. You and your Ame-

lia. From My heavenly throne I have watched you in your struggle for the right. Now I must aid you."

"Why?" asked Arny. "Aren't we doing all right?" There was a shade of mockery in his voice.

"You are doing fine" replied the figure. "But there is one coming to do hattle who is more powerful than you. He is Satan, the evil one. He'll come in the form of a woman or a man, and take any name he chooses."

"Are you an extra-terrestrial being or just a new development of George's?" asked Arny, the mockery in his voice now undisguised.

"Have faith in me, My son," the figure rebuked.

The lights had been growing dimmer and dimmer. Now the objects in the room were hard to distinguish. The figure of Christ remained bright, however.

"Whoever you are," Arny now exclaimed triumphantly, "you are now helpless to do more than drift. I hope you are George. If not, you are deceitful, and therefore not to be trusted."

"What makes you think that?" asked the figure.

"Just a hunch," Arny answered. "Your behavior is not that of an honest person. Your figure, which I know to be a telepathed composite wave and not an actual figure, is derived from tradition and not from fact. But it doesn't even conform accurately to tradition!"

The figure vanished abruptly. After a few seconds of quiet a new figure appeared. That of Ho-a-ha. He flashed a half anxious, half respectful smile at Arny and said, "I see you are far more advanced in your achievements than George. You actually have me trapped. How did you know that a spirit moves by the same principle as light?"

"I have known that for some time now," Arny said. "I also know that a concentration of electrons under a pressure of two hundred billion electrostatic volts is sufficient to stop light speed inside the pressure area. Therefore you can't move. Only drift."

"I suppose you are also aware," Ho-a-ha said condescendingly, "that the photons emitted by your lights are drifting and building up in concentration. By the time you drain your field they will be so concentrated that there will be a terrific explosion that will destroy you."

"I'm aware of that," Arny replied with a humorous chuckle. "The field will be drained by leakage only and the photons will leave at only a few miles a second velocity."

"And I will leave with them!" Ho-a-ha exclaimed.

"I think you won't," Arny answered. He walked into the next room and brought in his trap, hooked it into the wall plug and stepped back.

ITS hum was different, but it worked.

The three watched the figure of Ho-a-ba. Its expression was one of baffled rage and amazement. "You may be able to hold me for a time," it finally said, "but sooner or later you will have to let me go. Then living or dead I will see that you stay eternally in hell. A hell that Cpenta herself can't dissolve!"

"Who's Cpenta?" Arny asked, suddenly interested.

Ho-a-ha opened his mouth to reply. His figure disappeared, but Arny and Amelia could hear his telepathed cries as he was sucked into the trap and deposited on the film of glue. Then there was silence.

Arny felt his way over to the button panel and pressed a button. In a few minutes things became dimly visible again. Then he started working fran-

tically.

First he placed the slide on which Ho-a-ha was stuck into a small box. Then he rapidly piled a plastic dough around it. This he wrapped with tinfoil. Another layer of plastic. Then another layer of tinfoil. This went on until the mass was over two feet in diameter.

Finally he asked Howard to help him. The two of them placed the rough ball of plastic on a platform resting on tall insulators.

Then Army fashioned a cage of chicken wire over it and ran a cable to a large, motor driven static machine in one corner of the room. This done he pressed another button on the panel. Slowly the lights grew brighter. Finally a charge meter on the panel in the lab showed zero charge.

Army heaved a sigh of relief. "You two don't know how near death you were. If the field had broken it would have meant just what Ho-a-ha said it would: an explosion."

"Now what?" asked Howard. "Aren't you curious about that fellow. He was no mutant. Obviously far older and more powerful than you. Don't you feel the least bit of curiosity about where he came from? How can you find out?"

"Oh, he can still communicate with us, and we with him," Army answered carelessly. "Telepathic communication is by means of pressure waves in the basic ether. That is not affected by the field he is in."

As if in answer to Howard's question a wave of desperation and hate beat against them.

Howard had been thoughtfully mulling something over in his mind. Now he asked, "Army, how is it possible to build up an electrostatic pressure of two-hundred billion volts? And how can it be held after it is built up?"

"By field layers," Army answered. "You build up a field pressure of a couple of million volts in a core. Then you build up a similar pressure in the next outer layer. This compresses the core field. Build up a pressure in the next layer and it compresses the two inner fields more. The relative pressure between any layer and the next remains about two million electrostatic volts, so that after a hundred thousand layers the pressure in the core is two hundred billion volts!"

HOWARD whistled his amazement at the simplicity of the procedure. "You know, Army, I am continually amazed at how dense we ordinary mortals are. We build up a civilization and finally make an atom bomb. Then we pat ourselves on the back and say, 'See how smart we are. We're in the atomic age!' Then you come along and use forces and procedures that are so far advanced that we wouldn't see them by ourselves for a thousand years yet. And yet they are so simple that after we learn them we kick ourselves for not having discovered them long ago. We're just children intellectually."

"I wouldn't say that," Army objected. "You are born with an instinctive faculty to rationalize. So am I. It is just that my mental processes instinctively complete themselves. Yours don't. I wonder who this Cpenta is that this fellow we captured mentioned."

CPENTA smiled at Army's curiosity about her. She and her hosts had finally reached the solar system. Braking the Seraphim so that it would take up a stable orbit in the system, she and her subjects had dived away from it toward earth, coming to rest on the surface of the ionized layer just inside

the Moon's orbit.*

To the half dozen astronomers who observed the approach of the Seraphim that giant ship, artificially constructed by skilled, etherian craftsmen, was a new comet. Plainly visible to the naked eye, it was considered a divine manifestation of the coming of Christ by the millions of new converts to Christianity by the divine appearance over Europe and Karns' proclamation that followed.

They recalled that at Christ's birth in Jerusalem there was a similar star. A noted science editor pointed out that the origin and history of comets was still a mystery. That comets were the mysterious Wanderers of space, visiting the solar system, circling a time or two, and then vanishing as mysteriously as they had come.

A lengthy article appeared in a national Sunday supplement citing each known instance of the appearance of large comets and the world events that followed.

Cpenta smiled at Army's curiosity. And all about Chinvat a ripple of laughter swelled into a gale of mirth at Ho-a-ha's plight. They saw him, a high raised etherian, outsmarted by the newest wonder of the universe; a mutant. And one who had existed barely a score of years.

Cpenta spoke to Ami, chuckling, "I see why you felt outclassed. I could

tell you the story of another mutant that only the C'chief of each etherian region knows, but it is forbidden by Nirvanian Decree. Nevertheless, the history that will now unfold will be exactly the same as in his time and place, so you will learn it objectively."

"What is going to happen?" asked Ami.

"Watch and listen," Cpenta Armij answered.

HOWARD BROWN looked over at the static machine. Its four-foot glass discs whirled rapidly. The noise was getting on his nerves. He tried to ignore the sound it made, but his irritation only grew. Suddenly with an exclamation of annoyance he stepped over to it and reached for the switch that would cut off the motor.

Army took two quick steps and caught Howard's belt in back, pulling with a sudden jerk that upset Howard.

"Sorry, Howard," he said. "This fellow is very subtle. I didn't realize what he was doing. He telepathed an emotion, calculating what your spontaneous reaction would be. That way I couldn't realize until almost too late what you were doing."

Howard looked up at Army and smiled apologetically. "That's all right, Army. Maybe I'd better leave. I'm only dangerous to have around while that bellish creature is here." Suddenly he let out a startled, horrified cry.

Army glanced in the direction Howard was looking and saw a writhing mass of glistening, evilly spotted snakes. Thousands of them in a mass that hid the ball imprisoning Ho-a-ha.

Glancing back at Howard, Army hesitated in indecision for an instant, then hit Howard under the ear with his fist.

As Howard collapsed Army hastened to the "college" cabinet and unscrewed part of it from the base. This part be

* This layer, called Chinvat, surrounds the earth on all sides, staying about a hundred and twenty thousand miles above the earth's surface. Its negative electrical charge is just strong enough to act as a solid surface to a disembodied secondary structure. To an untrained one it acts as a barrier, holding it in and keeping it from going into interstellar space. To an etherian it acts as a plateau—a land with plains, hills, valleys, rivers, and oceans, just as real as the solid earth is to a surface man on earth. Below it are several other layers. The appleton layer, the Heaviside layer, and others. Each is, to an etherian, a plateau. Solid, liveable, and roomy. To an earthman each is an ionized layer.—Ed.

set up on another bench, training it on the mass of snakes. Plugging it into the wall, he stood and watched anxiously. In a moment the tubes warmed up.

The snakes vanished abruptly. A wondering voice spoke telepathically. "What is that?"

"That, my dear extra-terrestrial, is an emotion transmitter. There is a photo track of the sheer emotion of love in it, being transmitted at telepathy frequency, amplified a hundred thousand times above normal and on a tight beam. Can you think of hate and snakes while your being is bathed in pure, unadulterated love?"

Arny laughed in triumph. His laugh was echoed around the world on Chinvat. But an amusing sidelight developed in one section. Arny's light beam was aimed slightly upward purposely to avoid interference with the privacy of human thought on the surface.

The beam spread considerably by the time it reached Chinvat, covering an area of a hundred thousand square miles. Within that area the etherians were overcome by the emotion, embracing one another unashamedly and without inhibition. And in that area Ho-a-ha's question was echoed. While in the ecstasy of stepped up pleasure, greater and more wonderful than anything in their thousands of years of existence, the etherians' minds telepathed in awed wonderment, "What is this?"

C PENTA ordered the area evacuated. Then she explained. "That is emotion augmentation, outlawed by the Nirvanian Council of C'chiefs countless cycles ago. It is still permitted in certain blocked off regions to see what its ultimate development will be. But it is not for us. With IT at your command, all desire for normalcy would

end. An endless orgy of more and more augmentation would begin. Your work of stellar construction would come to a standstill. You would cultivate slave races of living men to build and operate the machines for you. Your sense of values would focalize on pleasure and forget utility and skill. The countless races of men in this frame of space would be neglected and permitted to degenerate into lawless hands of space-traveling pirates. You, yourselves, would become vulnerable, just as you would be now without my knowledge and guidance."

She paused for this to sink in. Then she went on. "You, who were in the path of that beam, do you not feel the urge to return to it? I see you do. Almost you would defy my authority to return to it. Ho-a-ha himself, hatched in the concentrated beam, can no longer desire to escape from Arny. When he is finally released he will long to return to it. For a thousand cycles he will hunger for that augmented emotion, magnified beyond the wildest imaginings of any God or mortal. Stay away from the beam or I will be forced to send you all back to Haot-saiti for your own good!"

With this stern admonition Cpenta settled down to watch further developments. And things were developing rapidly. Only a few hours had elapsed since the vision had appeared over Europe. Before that Ho-a-ha had visited every organized community of spirits in all parts of the world, appearing as the Christ, getting the allegiance of thousands of millions of well trained, intelligent spirits who were convinced that he really was the Christ returned according to prophecy.

A BATTLE was going on between the European heaven of Christians and the Mohammedan heaven over

northern Africa. The system of inspirational propaganda, the connecting link between each heaven and the earth surface below it, had already begun to incite war.

An unidentified plane had dropped an atom bomb on the industrial section of Paris. Shot down by the Swiss, its identity was being kept secret. France had issued an ultimatum to the Swiss to divulge the identity of the plane or suffer the consequences.

Rumor was a fever raising the temperature of every state in Europe and Africa. The Iranian minister to Moscow had been shot. No, it was the Turkish minister. No, that was all wrong. The Ethiopian ambassador to the Vatican had attempted the life of the Pope.

The United States had attacked China. No, it was the other way around. No, it was India who had attacked China. No, China had invaded Russia.

It was a field day for radio reporters. Each rumor became a headline. Each headline a potential fact. Each potential fact a possible scoop. What matter if a thousand headlines were wrong. The reporter who guessed right would be made for life.

The private, tight-beam network of the dictators was vibrant with exchanges. Red faced rulers glared at one another accusingly, took sides, shifted back and forth, lining up for a coming battle. No one asked why there was to be a war. No one wondered. It was an admitted fact that war was coming within twenty-four hours.

George strode up and down in Dictator Karns' office, speechless with rage. Things were out of hand. His well-knit organizations all over the world had forgotten him and turned to the new savior. He found that the Christ had anticipated failure with him

and undermined him.

Karns found his leadership in the group of dictators gone. They all seemed against him. His speech over the open networks had angered them. They suspected an underhanded play. The visual newscasts of the bombing of Paris made real and inevitable the coming war.

George and Karns asked each other desperately, "Why, oh why doesn't the Christ show up again?"

And in Arny's laboratory the fake Christ, Ho-a-ha, writhed in ecstasy. In a universe of his own imaginings he was ruling countless hillions of the fairest creatures in the universe. Bred for thousands of cycles for their physical perfection, trained all their lives for orgies of every description, his imaginary subjects were all his, created for him alone.

His receptors quivered in a mad rhythm induced by the most seductive combination of telepathy frequencies ever to ride through the ether. Not a whisper could be heard from him. His universe existed within his mind alone.

ARNY did not fully realize the power of the beam his machine was emitting. At normal strength in the "college" machine, it had helped the secondary structures under training be more content with their temporary imprisonment, speed up their work, and come out quicker; useful allies to his cause.

He had turned on the beam merely to make this extra-terrestrial spirit more tractable, if possible. He had amplified it on the theory that a more developed spirit would need more persuasion to react the desired way.

The quiet worried him, though. He probed into the plastic ball, trying to detect some faint telepathic whisper. There might as well have been nothing

but insensate matter for all be could find out. So he shut off the machine.

At first a quiet sob, as if someone had lost his dearest possession, came from the plastic ball. Then the voice of Ho-a-ha came, pleading. "Give me back what you just took away, Arny. You can have anything. I'll do anything you want if you'll only give me back what you just took away."

Then full realization of what had happened seemed to strike him. He shuddered so strongly that even Howard could sense it. "No!" he exclaimed hoarsely. "No!" He seemed to direct his voice in argument with himself. "Don't do that again. It's hellish." He shuddered again. "Another period of that, whatever it was, will rob me of my will."

"Well, I'll be darned," Arny exclaimed in surprise. "Maybe I've got something here I didn't know about. Tell me, man from another world, why do you think this beam can rob you of your will?"

"Try it on yourself," snarled Ho-a-ha.

"Tell me or I'll turn it on you again," Arny threatened.

There was silence for a minute. Then Ho-a-ha said resignedly, "Go ahead. It is a better existence than any I've ever known. Even if it destroys me it will be worth it!"

Arny, Amelia, and Howard looked at one another wide eyed in amazement.

"I believe I'll try it on myself," Arny exclaimed.

"No," Howard said hastily. "Try it on me. There's no one to replace you."

Arny hesitated, then turned the machine on Howard, leaving it on for just a few seconds.

Howard's face became apoplectic. His breathing became suddenly loud and rapid. Just as Arny shut the machine off the collarbutton on Howard's

shirt tore loose. When the beam stopped he dropped exhausted to the floor. It took several minutes for him to regain his composure enough to speak.

"Arny," he gasped between breaths. "That is the most hellish thing in the world."

"What did it do, Howard?" asked Arny.

"Do!" Howard cried. "That is the Ultimate in nerve stimulation. Where did you get that thing?"

"I DON'T remember now," Arny said thoughtfully. "Let's see." He paced the floor absent mindedly for a minute or two.

"I think that is one of the abstracted combinations. It contains the frequencies common to several different types of telepathed wave complexes. Strictly overtone stuff." He was remembering it clearly now. "It's a funny thing. That beam, as an overtone or subdued component of a message, carries the meaning of love, respect, and obedience, depending on which of the frequencies is most dominant. If you add a single frequency of any kind that is dissonant it changes to hate. Something like a discord on the piano."

"That's really a weapon that is a weapon," Howard exclaimed. "Do you realize we could make a lot of those and put them in the hands of a small group of men and march on New Chicago and capture Karna and George?"

"Is George in New Chicago?" Arny demanded.

Howard nodded. "Didn't you know where he was? I thought all the time you didn't go after him because he had something you couldn't beat just yet. Afraid to ask about it because I thought I would be butting in and getting too nosy."

"Of all the dumb fools! I mean me,

Howard. I assumed you didn't know or you would tell me. For five years I've been searching high and low for him. Now I'm going after him."

"No, Arny," Amelia pleaded. "Let someone else do it." His look froze her objection. She bit her lip and kept quiet, her eyes large with worry.

"I'm going with you," Howard stated flatly. "Will we fly?"

"I don't know," Arny answered. "Let's see what the latest news is now." He turned to the radio, then hesitated. "I'm going to turn the beam back on this visitor. He's dangerous and I'm not going to take any chances."

Ho-a-ha came to life, telepathing pleas for mercy. Arny, his face grim, set the machine back on the bench and aimed it at the plastic prison of Ho-a-ba, and turned it on.

AMELIA stepped around him and turned on the radio. The face of dynamic, grey-haired Melvin Price, the most popular news announcer in the country appeared on the screen. His voice became audible in the middle of a sentence.

"—all along the Atlantic coast. The crew of the ore ship, Roosevelt, on the way from Africa with a load of Uranium pigs was picked up two hours ago and brought home by plane. The ship is proceeding under robot control."

"Evacuation of all major coast cities is under way. Plan M is in full operation. Canada is fulfilling her part in spite of the differences existing with her at this time. The Prime Minister in a public statement said that hemisphere solidarity is first in importance for both countries. Our beloved leader, Generalissimo Karns, specially anointed by Christ, interrupted his new duties as head of Unified Christianity and Government in which he is laying the foundations for world rule of the Christ, in

this country at least, to thank the Prime Minister for his Christian offer of support and to initiate the beginning of plan M.

"The forces lining up for battle seem to be crystallizing into two definite sides now. Christianity against the rest of the world. Russia holds aloof. Civil war rages in China. All of Africa, middle Eurasia, and India have united into a solid bloc. Italy is insisting that when this war is over we learn our lesson and end the independence and statehood of all enemy countries forever. She may have something there. The lineup is much the same as in the Atom War.

"But this time no one seems anxious to use atom bombs. Every few hours some nation goes on record as declaring she will not use her atom bombs unless attacked with them first. They would be for the most part harmless, anyway. It is too expensive to send over a hundred with only one chance out of a hundred that any will reach its objective. The hysteresis ray and the all-probability technique have rendered it harmless. Nevertheless, the defense system must keep operating, just in case.

"Rumor has it that a distinctly new weapon will be used. Whether it is a new development in atomics or something entirely new, no one seems to know.

"I'll return in just a moment. But first there will be twenty seconds for our sponsor, the Super-super Cigarette, the cigarette for America."

The face of Melvin Price melted gracefully into the weaving streams of color from a color organ and the composite voice of the Marx sisters crooned

"Super cig, super cig

Super super-super ci-i-ig."

Then a bell like voice asked, "Do you need a super lift? Well, of course you do. We all do. Only Super-supers can give you that extra super Super-

super lift found in no other cigarette. Made from super choice tobaccos blended with just the right amount of petals of the Super-super orchid grown in our thousand acre hotbouse by the world's greatest experts."

The Marx sisters repeated their chant, but this time their figures could be dimly seen weaving in the colors of the color organ. Then the face of Melvin Price reappeared.

"YOU are all acquainted with the rules of M. They were drilled into you even in the kindergarten. So I just want to remind you that they are now in force. As of two hours ago. No air travel is allowed. If you live in the country you will have to take a car of some sort. Air travel is out.

"The big question in everyone's mind this minute is, where is Christ? There is no question that he is back on earth. He was seen over Europe by millions of witnesses. Generalissimo Karns was visited by him. Since then he has not manifested himself. This is the greatest period in the history of the universe. The period dealt with in prophecy throughout the ages.

"We face the coming holocaust with full confidence, knowing that the King of the Jews is here, somewhere, to bring victory to the Christian nations. Generalissimo Karns himself is in conference with the heads of all churches of the North American Continent, and history making developments will be forthcoming at any moment.

"Keep tuned to this station. Communiques are coming in from all parts of the world constantly. And don't forget—"

Army snapped off the radio and grinned in the direction of the plastic ball. "I wonder where his hosts of angels are. They should be rescuing him." He buckled mirthlessly.

Army went on: "Well, I guess I'd better make a couple of love-ray guns with variable intensity triggers on them and then we'll have to go to New Chicago in Amelia's car and capture George."

"What about the war?" Amelia asked.

"What about it?" Army snapped. Then, seeing the hurt look on his wife's face, he added, "I'm sorry. It will have to be fought for the present, I don't know how I can expose this fraud we have penned up. And I don't know how I can cool the tempers of all the people on earth by myself. All I know is that I must capture George and kill him. After that I can plan the next step. That has always been the first step. It is now."

He turned his back on Howard and Amelia and pulled open drawers, piling tools, spools of wire, radio tubes, and an assortment of things on the work bench.

HOURS passed. Slowly two pistol-shaped objects began to take form. No larger than an automatic, they would be easily hidden in any pocket. So intricate in construction that often Army put parts together while watching his work through a low powered microscope.

Amelia and Howard whiled away the hours listening to the newscasts. A fleet of twenty thousand large rocket ships took off from India and shot across Europe at an altitude of two hundred thousand feet. It created a twenty minute alert in Europe without dropping anything. As it headed out over the Atlantic the alert spread to the North American continent. But in mid Atlantic it turned back, and finally landed at its home base without having dropped a bomb.

There was considerable speculation

about this meaningless flight. The Indian government let drop in the right places that it was a practice maneuver. One news analyst advanced the theory that it might have been a flight to drop disease germs of some new variety to wipe out the population of Europe.

Switzerland had invited all nations to a parley to discuss the grave situation. None of the non-Christian nations had accepted. Most of them had not bothered to reply to the invitation.

Russia was still silent, but rumors about her were in every newscast. One commentator predicted that she would wait until the rest of the world was exhausted from battle and then step in and take over the world. Another said that Russia's internal state was so precarious that her leaders were afraid to put arms into the hands of the people for fear of a revolt.

At this point Army looked up from his work and remarked dryly. "Russia is the only really civilized nation left. She doesn't want to fight because she knows that it is the height of insanity."

The Mohammedan bloc had sent troops into China to aid the non-Christian factions of the revolt, citing Roosevelt's four freedoms as her excuse. Freedom of worship must continue, she demanded, and she would fight any nation that attempted to restrict it.

In Germany and Poland all non-Christians were being rounded up and put in confinement camps. In Italy they were being openly shot on the streets.

It was midday in Europe and the small hours of the morning on the granite mountain when Army finally straightened up and said, "Well, that's done."

Lying on the bench were two pistols powered by micro-sheet wet cells. One unit battery of these, weighing only two ounces and just a half inch thick,

an inch wide, and two inches long would supply five amperes of current at a hundred volts for three hundred hours. Coming in all sizes, always reliable, able to stand a five-hundred percent overload for five minutes without overheating, they had replaced the heavy storage battery almost overnight in the spring of nineteen forty-eight.

"I'll sleep while you drive," Army added, speaking to Howard. "It will be a six hour drive—or maybe more if the roads are being watched. We'll take you with us, Amelia, and drop you off at the farm."

Handing Howard one of the ray guns, Army pocketed the other. In fifteen minutes the three of them reached Amelia's car, parked three hundred yards down the back slope of the mountain, and began their journey.

GEORGE'S rage at the way the Christ had undermined his well knit world organization had soon passed. Karns was so full of enthusiasm, so sure that the vision he had seen was of the real Savior of mankind, that George didn't dare to disillusion him. So George kept his thoughts to himself.

He knew that the being posing as Christ had left him to see Army. He had intended to be back in a short time. In fact it was necessary for the Christ to appear or there would be tragedy soon. There was only one conclusion possible. Army had captured him.

How he had done it George couldn't imagine. But he realized the time had come for him to end the continual threat that menaced him in the form of Army. His spies had informed him of the birth of Army's son. They informed him now that Army and Amelia were not at the Gearheart farm but the baby was. He knew that Army had certain defenses up all the time at the farm, but he knew their nature and knew that

without Army there he could get the baby and escape before Army could come to the rescue. Then he would have a hold over Army.

With a muttered excuse to Karns he hurried out of the capitol building and was soon speeding southward toward Kansas in his car. He had to do this job alone and in secrecy.

In three hours he was back, using his private entrance to get the baby into his laboratory section unobserved.

ARMY turned the car into the driveway, circled the house and braked to a stop at the back porch. The house was in darkness. It was only four-thirty and the folks wouldn't be getting up for another half hour. So the three of them stole quietly up the steps and carefully opened the back door.

Amelia switched on the ceiling light and turned her face back to the door to say something to the two men. The expression on their faces froze her words in her mouth. Slowly she turned back to see what had given rise to the horror on their faces.

Her eyes took in the bound figures of her mother and father. The realization of what that meant soaked in. Then she fainted.

Army caught her and lowered her gently to the floor. Howard stepped past him and pulled the gags free and began to untie the ropes around the two old people.

With thick, unintelligible words Mr. Gearheart tried to tell them what had happened.

"Don't talk," Army snapped. "Just think coherently. I can read your thoughts."

The story unfolded. Army Jr. was gone. Kidnaped by George. And George had left a message. It lay on the kitchen table. As Army read it his lips pulled back in a wolfish snarl. It read:

Hello, Army:

Surprised at this move? You should have known it was logically inevitable. Shame on you for slipping up. You disgrace us mutants. I have always been extremely curious about the capabilities of a second generation mutant. We are the freaks, you know. It would be the norm. Will it be ambitious like me? Or purely intellectual, like you? Can I plant the seeds of ambition in it so strongly that you will have to kill it when you get it back? Or can you figure out a way to search out subconscious motive patterns that will not develop until maturity? I can plant a desire in your son's mind with the order for it to become dominant after his twentieth birthday, you know. I can do many things to him. But it will take a little time for me to make up my mind. Of course, with you out of the picture I might just kill him. Suppose you come to New Chicago and talk it over? No tricks, though, because your son won't be here. He will be safely hidden where only I can get him. You wouldn't want him to starve to death would you? And him still a bottle baby.

George

Howard had finished untying the old folks. Amelia still lay forgotten on the floor, as Howard took the note from Army and read it. Then he cast a puzzled look at Army. "What are you going to do?"

"I'm going to New Chicago." Army reached into his inside coat pocket and withdrew a flat case. Pushing a switch on it he said, "This is a pocket edition of my thought scrambler. Now George can't hear what I have to say if he is around. He is enough of an egotist to want the chance to talk to me face to face when I get there. He won't know that I can train this ray gun I just built in his direction at quarter strength

and make him my bosom pal long enough to get Arny Jr. back. Then I'll turn it on him full power and watch his face get red, his collar burst open. He'll die of a brain hemorrhage—or be an idiot when I shut off the ray gun."

He stepped over the figure of Amelia in the doorway, the screen door slamming shut behind him. Howard hurried after him, but the car drove off before he reached the foot of the back steps.

THE spires of New Chicago crept up from the horizon. The speedometer needle had been resting at 230 all the way. Arny's face was chiseled granite, his eyes two pools of blue fire.

The dashboard radio was on. The news had just come over it that all of Germany, eastern France, Poland, and Denmark had been wiped out in a mysterious explosion. It had not been atomic, although it had covered an area of many thousands of square miles.

The Christian bloc was in a daze. No planes had been over the area. No radar station had detected the approach of any object whatever over or even near the scene of the explosion, and they would have detected the passage of a meteor the size of a plum through the stratosphere. The Indian government, as spokesman for the non-Christian bloc, had issued an ultimatum. Surrender or be destroyed!

In all churches in the country large crowds were gathered, praying for Christ to show up and save them. On every other corner in every large city some speaker was shouting that the end of the world was near. They pointed out that the prophecy stated that Christ would take his bride, the hosts of those that were "saved by his blood" into the heavens and destroy the earth by fire, cleansing it. Then he would re-

turn and build the new Jerusalem. On some corners traffic was blocked by the kneeling multitudes. It rapidly became the belief of the man in the street that Christ had caused the explosion in Europe.

Professor Reems of the Massachusetts Institute spoke over the radio saying that the enemy had a new gas, magnetic in nature, and explosive in certain concentrations. He said that the mysterious fleet from India that had apparently done nothing had spread this gas while coasting across Germany, that it had settled to the ground and held together due to its magnetic property, drawing more and more together until it was in sufficient concentration to have a low flash point, and then a match, a spark, or any constantly occurring flame would touch it off.

Arny nodded grimly to himself as he heard that. Rapid calculations in his head told him just what chemical would do that. But the gas could be kept dispersed and drawn into small, localized areas and exploded harmlessly. As soon as he finished with George he would have to notify the Professor of that by "inspiration," contact his mind and plant the idea in it so the professor would think he had thought of it himself.

He slowed down to a hundred and ten as he reached the city limits. It would be farcial to wind up in a precinct jail for reckless driving at this stage of the game. In fifteen minutes he turned into a parking area a quarter of a mile from the capitol building and hopped the sidewalk on the first level, arriving at the entrance to the Capitol foyer five minutes later.

A brief statement of his name and that he was expected brought an armed guard who politely escorted him to an elevator and pressed the button for the fifth sub level, then stepped out and

closed the door, leaving Army in the elevator by himself.

ARMY reached inside his coat and flicked the switch of the scrambler off and on quickly, holding his thoughts passive while he did so. He "heard" George's chuckles of triumph and momentarily regretted his haste in coming without more preparation.

He shrugged his shoulders. It was too late now. The elevator stopped and the doors opened. George stood there, a businesslike army automatic pointed at him. Two men stood beside him.

"Search him," George commanded. One of the men stepped forward. Army watched him come, an absentminded smile on his face.

The man ran his hands over Army's clothing and stepped back, saying, "Nothing on him, George."

"That scrambler—you must have it on you. Oh, I see, you hid it some place in the building. Well, it doesn't matter anyway." George motioned toward a nearby door with the muzzle of his automatic.

Army smiled inwardly. He had won the first round. Evidently George did not know as much as he should. He had been too busy ruling the world to study or he would have known that Army could easily take over the body and mind of his aide and search his own figure as it stood there with a fixed smile on its face, passing over the scrambler and ray pistol lightly while the mind of the man thought he was searching thoroughly.

The room they entered was a large, luxuriously furnished living room. The walls were lined with books. The rug was wine red, an inch thick, and the furniture was a royal blue trimmed with chrome. The radio was turned on with voice barely audible.

"Have you harmed my son?" Army

asked anxiously.

"Of course not," George answered. "I'm not fool enough to do that except as a last resort. I need you, Army. This Christ has upset my organization completely. I gather you have him prisoner?"

Army nodded.

"Well, he is the only one who can stop this war that is going on, but I'm afraid of him. We both know he's a fake. But neither of us knew there were extra-terrestrial beings. We should have guessed it, of course."

"I rejected the possibility long ago," Army said. "The Appleton layer prevents a secondary structure from leaving the earth. But the presence of this one shows that they can come down through it at least."

THE two aides stood near the door, watchful and alert. George had handed his gun over to one of them. Now he carelessly walked over to a mahogany liquor cabinet and poured two glasses of whiskey, handing one to Army with the words, "You'd better take this. You'll need it in a few minutes."

Army, with an assumed carelessness equal to George's, took it. "Thanks, George," he said, smiling. "I didn't think you were that humane."

He sipped the whiskey, letting its fiery liquid slip past his tonsils slowly. The burning sensation of the unaccustomed liquid soothed his tightened nerves. Casually, holding the whisky in his left hand, he slipped his right hand in his coat pocket and wrapped it around the butt of the ray gun.

To cover the action he looked at the television screen and asked, "Direct hookup to Karns' private line?"

"Mm hm," George murmured. "The offensive is about to be launched. Twenty thousand atom bombs will be

launched any minute now. They're a new type with a non-metal shell and the internal structure designed to minimize currents set up by the hysteresis ray. They worked O. K. in test runs. That's *our* secret weapon."

"Oh?" Army remarked politely. "I've often wondered, George. Do you run the army openly, or do you stay entirely in the background, letting Karns do it all?"

"Only the high command knows about me," George said. "Some day I might need a new dictator for a front. He will come from the high command and already know who's the boss." He grinned confidently.

"Oh, yes," he smiled broadly, "You are undoubtedly wondering about the purpose of your visit?"

"I am," answered Army.

"Well, to put it frankly, I have been quite worried about you. You are the only other male mutant in the world besides me. It worries me that you are all alone so much. I would like for you to bring all your equipment here to New Chicago where you can be under the protection of the government. And I would like to learn all about everything you have discovered. Just to be safe, you know." He chuckled mirthfully. "So if anything happened to you your discoveries wouldn't be entirely lost."

"Very touching. Your solicitude, I mean," Army said, returning the smile.

The guard holding the automatic began to show signs of uncomfortableness. His face was flushed, his breathing rapid and loud. He ran his finger around his collar, and unbuttoned it. George glanced at him, then turned his eyes back on Army, a worried frown on his face.

Army frowned back. "What's the matter with your stooge?" he asked innocently.

"What's the matter, captain?" George asked the man. Army let up on the trigger of the ray gun which he had turned on at quarter power. The officer sighed in relief.

"I don't know, sir. First time I ever felt like that." He paused in embarrassment, trying to find words to explain the symptoms without revealing the passionate thoughts that had been racing through his fevered brain.

"Maybe I'm getting heart trouble," he concluded lamely.

"Keep your mind on your work," George said sardonically.

The officer's face turned red again, but this time from natural causes.

GEORGE turned his attention back to Army. "Where were we? Oh, yes. What do you say? If you came here and brought all your stuff with you, including your family—"

A hoarse squawk from the officer interrupted him. He turned quickly, in time to see the guard fall, blood coming from his nose. The other guard had quickly retrieved the gun, and kept it pointed at Army while George examined the fallen man.

As George bent over him he jerked violently and then lay still. George felt of his pulse. Then he slowly straightened.

"The man's dead!" he exclaimed. He turned quickly toward Army, studying him.

Army smiled. "Too bad. About my son, George. Don't think I'm too inquisitive. Where is he. Can you prove to me that if you were to die right now he wouldn't be harmed." His smile broadened, and his eyes bored into those of the puzzled George. "I wouldn't like to feel, while I am co-operating with you in every way, of course, that should some misfortune catch up with you, his life could be

lost. By a mere whim of fate, you know."

The second guard chose this second to fall with a soft thud onto the carpet. George whirled and saw the mottled face, the swollen neck pushing out around the collar, and to see the sudden rush of blood from the nose. He stooped to get the gun.

"Don't touch it," Army's voice lashed out.

George's hand stopped just an inch from the gun. Holding it there he turned, his eyes coming to rest on the reclining figure of Army.

"You wouldn't want to die like *that*, would you?" Army asked softly.

"You, you—" George sputtered. "I never counted on *that*. These were innocent men, following orders. It never occurred to me that you would be that merciless." His eyes were wide with awe and consternation.

"You forget that I am a mutant," Army said calmly. "Logic rules my actions. I realized you would depend on these two men to hold me. I realized also that you would underestimate how far I had gone in my studies. For example," he pressed the trigger slightly for a second, "that is just a mild taste of what those two men experienced before they died." He grinned again wolfishly.

HE watched quietly as the realization of what had happened sunk in. Then, conversationally, he went on.

"Let's discuss the situation frankly, George. We have both made mistakes. I should have deduced where you were and hunted you out long ago. You should have kidnaped my son and brought pressure to bear on me long ago, instead of waiting for a dramatic situation. Then you should have shot me the instant the elevator door opened. Your fear of me was overruled

by your desire to talk with one of your own kind. To prove to yourself by appearing to prove to me that you were the greater of the two of us.

"Well, your mistakes have tripped you up. Wherever Army Jr. is, you had better produce him."

"Never!" George answered in a barely audible whisper.

"I think so," Army said grimly. "Once every ten seconds I am going to press this trigger." He pulled the ray gun from his pocket. "For a tenth of a second you will be in heaven and hell. Then you will be out of it for ten seconds. The third minute will seem like an hour. The fourth will be a year to your tortured mind. The fifth will be a screaming eternity. During the sixth the blood vessels in your brain will begin to give out. Brain hemorrhage will begin. Then there can be no turning back. If you try any violence, or try to escape, you will get it full strength. Logic is king. I might lose my son. I can get another. I might never get this chance again if I were to relinquish it."

"And what if I give you your son?" George asked hoarsely.

"We will discuss the future then. Who knows? The universe is large. Space travel might interest you."

"All right," George said. "Come with me. I'll take you to your kid." He turned to the door.

Army got up hastily and followed him. George walked swiftly down the hall.

"Don't go so fast," Army commanded. When George didn't slow down Army gave him a tenth of a second of the ray at half strength.

George jerked and almost stumbled. Then he began to walk again at a slower pace.

Suddenly Army heard a door open behind him. A harsh voice commanded, "Halt!"

Both Army and George stopped and turned around. Two uniformed men stood in the hall, automatics drawn. Others were stepping out of the doorway.

Army had concealed the ray gun in his pocket when he had stepped into the hall after George. Now he put it on full, talking as he did so. "What's the meaning of this?" he demanded in an outraged tone of voice.

Before the men could reply they started falling, their faces turning a brick red almost instantly. The spasmodic contraction of the fingers of one man fired his gun. The slug tore into Army's shoulder.

At the same instant George leaped on his back and bore him to the floor. Army saw the white marble surface come up to meet him. He tried to pull his hands from his pockets, heard the ripping noise as one pocket tore loose. Then darkness rose up around him.

THE voice droned on monotonously. The words slurred together and the tone stayed at a single soul-torturing pitch.

Army pinched his eyelids together tightly. The throbbing in his skull was getting mixed up with the sound of the voice. He tried to concentrate on the words, but they seemed to dance around and get mixed up. He could make out any individual word by concentrating on it for awhile, but then its place in the sequence became hopelessly lost.

The blackness came again, washing around him like a stormy sea. He fought it. Then he felt that he had been unconscious again for a long time. He puzzled over how he could know, but the effort of thinking made the throb in his head more intense. Suddenly he knew. The droning voice had stopped.

There was something cool and wet on his forehead. He was lying on his back. He didn't have any shoes on. There was a sheet, a smooth sheet over him. Enough weight so there must be a blanket also.

With returning awareness memory of the fight in the corridor rushed back. Was he dead? What were the tests he had figured out for just this occasion to determine at once whether he were dead or not?

As if in answer to his question a dull throbbing began in his left shoulder. Memory of being hit in the shoulder by a bullet made him feel better. He must be alive!

Opening his eyes very cautiously he saw a dimly-lit ceiling with a glazed, cream-colored surface. He opened his eyes wide and, without moving his head, looked around as far as his eyes could reach. There were no windows. Just a door and some ventilation openings.

Then he must still be in the part below the capitol building! That meant he was a prisoner. Why hadn't George killed him?

He tried lifting his head and found he could do it. Over against the wall was a television set, but it was turned off. In front of it was a chair—empty.

He turned his head the other way. There was something against the wall that looked like a small bed with a fence around it. It looked like a—

A terrible, desperate anxiety gripped him. He lifted himself into a sitting position, fighting the waves of dizziness and pain. Yes! There was a baby in it, barely discernible through the wooden slats of the sides. His baby, lying asleep.

He let himself sink back on the bed, noticing just before he closed his eyes that his clothes were on a chair by the bed. Then he went to sleep.

THE voice was droning again, only now he could understand what it was saying.

"—will be dead from radio-active burns before many days pass.

"The tidal wave set up by this catastrophe is now eighty feet high and will reach the coast of Australia in two hours. All coast cities are being evacuated there. Ships are moving out to sea choosing possible survival rather than certain destruction in port."

Realization that it was the radio talking and someone must be in the room brought Army's eyes open. Howard Brown was sitting there watching the television screen.

HOWARD had reached the back steps too late to catch Army. He had stood there watching the departing car as it skidded onto the highway and gathered speed. He was certain Army would meet disaster alone. He knew nothing whatever about the capitol, its system of interlocking check, its system of floor pressure alarm, and its secret passages.

He turned and reentered the house. "Where's the key to the other car?" he demanded.

Amelia had recovered and was reading the note. "It's in the car," she spoke up. "I'm going with you."

"You are *not*," Howard said emphatically. "Army is going into things his senses can't protect him from. Traps that are impersonal and automatic. I'll have to get in there and save him. I won't risk failure by having you along to watch out for."

He was in the car and backing it out of the garage in another minute. As he passed the back door he saw Amelia standing there pathetically, in her eyes the hurt look of a dying deer. He cursed himself for a blundering fool, but didn't slow down.

After a mile he knew he couldn't catch up with Army. This car could only go a hundred and eighty at top speed. The one Army was in had kept at two twenty five on the way to the farm.

So Howard began to make plans to get into the capitol, and what he would do when he got there. He had been chief of the secret service when the capitol was built. In fact the secret corridors and rooms had had to have his O.K. before they went in. In all probability Karns and his henchmen didn't know anything about the tube entrance to the capitol from a certain point south of the city.

Howard found it easily, though he hadn't been to it since it had been built. He took an iron tire from the back of the car and drove it into the thick sod until it rested on the metal and concrete door. Then he tapped out the opening combination. The sharp blows would register on the lock mechanism and start it to working.

The door rose slowly, pulling the roots of weeds and grass with it. Before climbing down Howard took his jack knife and trimmed away the worst of the dangling roots so that the door would seat itself properly. Then he climbed down and pushed back the lever that would cause it to close again.

A walk of ten feet through a concrete passageway in darkness brought him to a tube car. He regretted the fact that he didn't have a flashlight. But it couldn't be helped. The door of the tube car slid open by hand just as easily as if the car had been used recently, even though it had not been used after its one test run after being built.

Howard pressed the ready button. There was a click from somewhere underneath and the car lit up. He reviewed the operation of the car in his

mind. It rode in a steel tube, a non-magnetic stainless steel. The car itself rode on two rider pistons at each end. In between these pistons were the laminated cores of split-core transformers. The other half of the transformers were in back of the tube itself.

A small ready-transformer was at each end of the tube, the secondary coil in the car. Pressing the ready switch put a load on the primary of this transformer, throwing a relay which threw the juice into the starting coil and the light coil.

If the car started now an alarm would sound at the other end of the tube in the capitol building. Howard reached behind the switch panel and pressed a secret button that would disconnect the alarm system. Then he pressed the start button.

Magnets ahead of the car on the outside of the tube were magnetized successively, drawing the tube car forward at an increasing rate. Automatic relays cut the magnets at the right instant to keep them from dragging on the car.

AS THE car gained in speed Howard wondered if there had been any check on the tube after the Atom War. A buckle in it somewhere would mean the end for him.

Almost before he knew it the car was braking to a halt by the drag action of the magnets. The swivel action of the seat was sluggish and he almost fell out against the control panel from the initial deceleration, before the seat had turned around.

Without a jerk the car came to a stop. Howard switched off the juice and reached under to reconnect the alarm circuit. Then he opened the door and climbed out.

He knew he was in a secret room on the third subbasement level. From this

room secret passageways led to every part of the building.

George would have his headquarters in some one of the subbasements, but where, he couldn't guess. If he knew about the secret passageways and the escape tube he would be located somewhere near. There was a secret spy-hole in the ventilation outlet from this room to the third level corridor.

Howard peeked through it to see a strange mutant walking toward him with Arny a few steps behind him. Then he saw the soldier step out behind Arny with a drawn automatic. Waiting to see no more Howard dropped to the floor and flung open the secret door, drawing out his ray gun as he stepped out.

The soldiers were falling. A shot was fired. Arny spun half around from the weight of the slug. Then George was on Arny's back, bearing him to the floor.

Howard withheld his fire, not knowing how much the ray would spread. He reached George in several swift leaps, grabbed him by the hair with his left hand and lifted him to a standing position. Touching the back of George's head with the muzzle of the ray gun he pressing the trigger viciously down, thinking of his old boss and of Arny's little boy.

Other soldiers were starting to come out of the open door. Howard pointed his gun toward the emerging soldiers, leaving the trigger on full. Holding it that way he picked up Arny and backed to the door he had come through.

Reaching it he backed in and slammed it quickly. Alarm bells were setting up a clamor all over the building. Howard waited for the rush against the secret panel. None came. Evidently all the soldiers who had seen it had died.

AFTER awhile he laid Army down gently and found the light switch. Two rooms opened up off this one. A hospital room and a living room. George opened both doors and looked in each one.

In the hospital room he saw a strange piece of furniture. It was a crib. And in it, cooing with delight, was a baby. It stood against the side of the crib holding itself erect with two fat little hands wrapped around the wooden bars on the side. Its eyes barely saw over the top bar. Its top heavy cranium threatened to throw it off balance any minute.

George let out a long breath between barely parted lips. Then he brought Army's unconscious form in and undressed it, putting it in the bed.

A television set was against the wall. He turned it on and then explored the wall cabinets for bandages and medicine. The voice of the announcer, coming in a rapid, staccato monotone announced the second explosion in Europe, destroying most of France, the eastern section of Spain, all of Switzerland, extending into the Balkans and down almost to the Mediterranean.

Then the announcer spoke excitedly of the launching of thousands of a new type of atom bomb from the Atlantic coast toward India. India was doomed. No power on earth could stay those robot bombs. Not even the hysteresis ray defenses.

Howard finished dressing Army's shoulder wound, dampened a towel and laid it on the angry welt on his forehead. The news ended just then, so he shut off the radio, took another look at Army, saw that he was still unconscious, and left the room.

Several times he came back and wrung out the towel and laid it on Army's swollen forehead. Army didn't stir. Then Howard left and went on

with his exploration.

He watched Karns in his private office. As he watched he fingered his ray gun, but finally shook his head. This was no time to disrupt the government. There would be plenty of opportunity later.

Finally his wrist watch told him it was time for the next newscast. He went back to the hospital room that had been built so long ago in the secret part of the capitol for use in case of successful revolt. The boss had figured every angle except treachery.

Army's breathing showed that he had regained consciousness and gone to sleep. Howard turned on the radio quietly. The announcer's voice began.

"—Bombs are landing in a determined pattern. Any survivors in the in-between areas will be dead from radioactive burns before many days pass."

He was talking about the tidal wave from India approaching Australia when Howard heard his name called. He turned and grinned at Army, who was sitting up in bed.

TWO weeks passed. They were full of feverish activity for Army. His stiff shoulder was a constant source of irritation. That, and lack of sleep were making his eyes bloodshot.

Workmen were erecting a tower on top of the mountain. A giant broadcasting set was going into a building at its base. Heavy wires were being strung on poles up the side of the mountain.

Every hour a gong sounded and Army turned on the radio to listen to the latest progress of the war. Air warfare had returned to earth. Thousands of planes were fighting constantly over the Atlantic. A few Mohammedan planes had gotten through but had been unable to get back. Five thousand square miles of Brazil had been scorched by the

magnetic gas.

The southern strip of Asia had dropped under the ocean, and India was a sea of molten lava. No more atom bombs were being used by either side. Scientists were figuring frantically as one seismograph report after another came in. It would be nip and tuck if the earth were to be saved.

The sun was a dim spot behind the continual pall of volcanic smoke that now surrounded the earth. The lava flowing into the Indian Ocean raised a cloud of steam that was thousands of feet high. Continual rains fell for two thousand miles around.

And Army worked day and night. Howard was with him most of the time, but he had to act as a front in the construction of the broadcasting station. To the workmen he was a rich New York financier on a new, and perhaps foolish, venture.

Finally the work was complete and the last workman had packed his tools and driven away. Mr. and Mrs. Gearheart, Amelia, and Army Jr. had come from the farm at Army's request, for safety.

They were gathered in the building at the base of the tower watching, as Army threw in the disconnects to the feeder lines and switched on minimum filament voltage to warm up the tubes.

The quiet hum of the motor generators and the occasional clack-clack of the vanes in the airconditioning apparatus seemed loud in the quiet, tense atmosphere.

Army threw the switches for the first antenna and adjusted the frequency dial until the antenna current meter showed sixty amperes.

"Right on the nose," he exclaimed in satisfaction.

ONE after another he tuned and coordinated each of the antennas.

Finally the tuning was done. He cut out the oscillator circuit. The glowing filament of one of the giant tubes died down slowly.

His hand shook a trifle as he walked over to the telepath panel and threw in the disconnects above it with a long wooden pole. Adjusting the filament voltage on the tubes until it showed just twenty-three on the voltmeter he looked around at the anxious faces.

"Here goes," he said softly, and pressed a series of buttons on the panel.

"The effect won't be felt within a radius of several miles," he explained. "We will have to look for the results on the radio."

"Will the effect be world-wide?" Howard asked.

"I think so," Army said, yawning widely and stretching. "Wake me up day after tomorrow, somebody."

They all laughed, Army Jr. clapping his hands and gurgling.

"Do you want me to stay here or go to the Capitol now?" asked Howard.

"Go to the Capitol," Army said. "Get things mapped out. We'll have to work fast when things start to break. I'll meet you there as soon as I've had some sleep and a rest."

HOWARD was in the hospital room in the secret section of the Capitol building. The radio was turned on and a very friendly commentator was telling his beloved audience the latest news.

"It's really remarkable, my dear friends, how delightfully nice things are turning out. The Confederacy ships met our defense squadrons over the mid-Atlantic for their last battle just three hours ago. Suddenly the Spirit of Christ moved over the scene of the intended battle. Not a man fired a gun. The thousands of planes weaving about was a sight to see. The Arahs, accepting the invitation of the Ameri-

cans, continued their flight to the coast where they landed on our air fields.

"They were at first a little afraid that their government would reprimand them for not accomplishing their mission, but were soon set at rest on that score.

"A joint meeting of representatives of all countries will begin later in the day at Washington, D. C., our ancient capital, to draw up plans for the world state. It is now certain that this wave of love and peace that has taken the world by storm is the direct manifestation of the Christ spirit, even though He has not reappeared.

"As an interesting sidelight, thousands of thieves of all descriptions are voluntarily giving themselves up in every large city. The government is being swamped with letters from people who have falsified their income tax reports during the last twenty years or more.

"Whatever the past, we are certain that so long as this Christ spirit pervading the earth remains there can be no more war."

The door from the tube car room opened and Arny came in. Howard rose and shook hands with him effusively. "It's sure working, Arny. I have a hard time keeping from stepping through the secret panel into Karns' office and kissing him!"

"Oh, you wouldn't want to do that," Arny said with a chuckle. He took off his coat and laid it on the bed.

"What are your plans, Arny?" asked Howard.

Arny had a peculiar smile on his face. "Come with me," he ordered.

Together they went to the secret panel to Karns' office. Karns was alone. "Watch, but stay here until you get your cue," Arny commanded.

Karns was obviously far from happy. Of all the people in the world, he alone

seemed unaffected by the radiations from the tower on Granite Mountain.

Arny pitied him. He was in an intolerable position. He had gained office by murder. Now the bath of love he was in, along with the rest of the world, kept urging him to confess his deed and relinquish office. That would be the end of life for him whether he paid for his crime or not. The ray of love and happiness affected him as an out-of-tune frequency would an antenna. It beat against itself and created an intolerable discord.

Arny had been studying Karns. He had had his plans all made, but now he decided to alter them. He whispered to Howard. "In five minutes step into the room. I will be able to take control of Karns' mind on an instant's notice, so there won't be any chance of failure, but I think we can let Karns' own conscience run the show."

KARNs was sitting at his desk, his face buried in his hands, when the wall panel quietly swung open. He looked up and saw Howard Brown, the chief aide of the man whom he had poisoned so long ago, framed in the dark opening.

"Hello, Howard," he said heavily.

"Hello, Karns," Howard answered. "Somebody told me you would be wanting to see me about now."

"So he is still here," Karns muttered enigmatically. "Yes, Howard. I am going to give up my office and name you as my successor." As he spoke he pressed a red button which cleared the wires for a special broadcast.

He tapped his fingers slowly on the polished surface of the desk, keeping his eyes blankly on Howard. A buzz signaled that the hookup was open. He turned to the scanner and mike and began speaking.

"Fellow countrymen. In this hour,

when all the world is joyful, and the Christ spirit pervades every nook and cranny; hating christian and non-christian alike, making even the rats in their warrens and the lion in the jungle into loving, sociable creatures; I, the only one whom our Savior saw fit to visit personally, am unhappy.

"I am unhappy because, although forgiveness has been granted me for my sins, only atonement can wipe them away from my heart. I wish to be happy as you are happy. I envy the poor clerk, the coal miner, and the street cleaner. Their hearts are pure and unstained. Their hearts sing as they bask in the Love of the Creator. That same Love knocks at my door, but it cannot enter.

"It appears as a beautiful maiden, holding out her arms for me to embrace her. And I cannot."

Karns' voice was a vibrant, living Thing. Historians of later times proclaimed this speech as the greatest ever made by anyone. And the day on which it was spoken, August the seventh, 1967, marked the beginning of what became known as the Era of Peace.

"I cannot!" His voice was an intermingled scream and shudder. Then it became a hoarse whisper. "Because my crimes hang over me like a dark cloud. A cloud that hides the sun's rays that all of you are basking in, and leaves me cold—and wretched. And I am wretched.

"I am not your leader. I am a thief and a murderer. All my life I killed those who were in my path, and stolen what I wanted. And I have never wanted anything I could not get by stealing or killing—until now." His voice cracked on the 'until' and sobbed on the 'now.' There were tears in Howard's eyes, and in the eyes of millions of the people listening to him all over the nation.

"NOW I want something I can't steal. Something the commonest of common men has. But I cannot kill him to get it. No," his voice became a grey, worn-out rag, "nor can I steal it from him. There is only one way I can get this thing I now long for for the first time in my life. It is by becoming as humble as the humblest of you, as selfless as the most selfless of you. I must get it in the *only* way it can be truly gotten.

"I am going to resign my office. I stole it in the first place. Killed your beloved leader and drove his followers into exile and into holes, to hide like rats. My last act will be to appoint my successor, Howard Brown, the right hand man of your leader, who should have been his logical successor.

"The future? If I am suffered to live I will devote my life to service. If you see me kneeling at some shrine, praying, will you kneel with me? If I knock at your door, will you let me come in? Somewhere, somehow, I will discover that which I cannot steal. Someday my heart can sing with Love, when I have humbled myself. Then, perhaps, the Savior will come again to me. Come to take me Home."

For a full twenty seconds he gazed longingly at the scanner, as if he could follow the currents that carried his image through the wires, out into the ether, and see the millions that were watching him. Then he shut it off.

Sighing deeply he put his weight on his hands and lifted his frame erect. "It's all yours, Howard. No one would dare dispute you—after that."

"That's the greatest speech I ever heard," Howard said with a catch in his voice. Impulsively he took Karns' hand in both of his and shook it. Then Karns walked slowly out of the room.

As soon as he had left Army came in. "Quick, man, get to that mike and give

your acceptance speech. You'll have to stay here now and consolidate your position. I'm going back to the mountain for awhile. You can reach me by phone. Get over to that mike." Then he was gone.

THE hosts of Cpenta Armij were singing the song of joy. Cpenta herself had joined in. The ray from the tower was mild. Too mild to work harm. Too mild to interfere with her sense of values. But it was pleasant.

She looked down and saw Army arrive at the mountain. With the speed of thought she dropped, to stand at his side.

Sensing her arrival, Army stopped and turned around. Seeing her, he gasped.

"Fear not for your plans, oh mortal," spoke Cpenta. "I have observed, and they are good. But I will remain for a time to advise you of heavenly things, and to take back my foolish Ho-a-ha to the things he knows how to do." Her laugh was a merry, tinkling sound.

Army studied her intently for several minutes. And in those minutes thoughts were exchanged that would have taken days of conversation.

In Haot-saiti a shining, new sun shone on fourteen small planets as they circled her. Far out in space, beyond the last planet, the hosts of etherians that had created her and strung the planets in orbits around her, like jewels in the firmament, swirled in the dance of joy.

"Behold the third planet with his single moon!" cried one. "He is just like the red star, Earth!"

"That is a surprise that will please our Cpenta," exclaimed another.

Suddenly a herald appeared, having come at the speed of light.

"Ho, all ye créatures of Haot-saiti. Ho, all ye slaves of our Nirvanian God-

dess," he cried.

The dance stopped and the hosts of frolicking angels paused in mid flight to listen.

When all were quiet he announced, "The Seraphim, mighty ship of our Goddess, is nearing the borders of Hoat-saiti. Speed to meet it and accompany it home.

"Our Goddess brings joyful tidings. A new star is born in the firmament of our Creator. Behold! A new man is born on the red star, Earth. A mutant. He is greater than the Great. He shall rise in power until he surpasses all. His works shall live, and spread. The whisper of his voice shall sway the stars of heaven in their courses.

"And in times to come, he and his hosts shall take the place Destiny has made for them. They shall build a universe beyond the north star!"

A cry went up. "Our Goddess comes! Let us go to meet her!" And suddenly the new sun and her planets were alone.

Alone? Far out in space a small dot approached nearer and nearer. It was a comet, that mysterious wanderer of the spaceways. Where do they come from? Where do they go?

This one had just come from Earth. It swooped in majestically, its luminous tail sweeping along for half a million miles behind it.

Slowly, majestically, it swept past the orbits of the outer planets. It seemed to pause momentarily as it neared the third planet with its single moon. Then it swept onward, circling the fiery center gracefully and heading outward.

Its tail touched the planet on its outward journey into space. A piece of it stayed behind. And in the slime of the stagnant waters on the surface of this young world something stirred restlessly. Gropingly. Someday, when the planet was older it would be a race of men.

Morton's Fork

By DOROTHY and JOHN de COURCY

Something strange went on behind
the scenes in the world—and to suspect
it existed was a threat to your life

"SCOTCH and soda, Mr. Merrick?" the bartender asked.
I nodded. "Ballantine's," I added.

His deft hands put the ice and liquor into the glass in one motion. The soda sizzled sharply as he poured and stirred it briskly. I sipped the drink, savoring the smooth smoky flavor. Automatically, I added my name to the check and George, the bartender filed it away as usual. I had just come upstairs from a refreshing swim in the pool. The scotch was warming and whetted my appetite to an even keener edge. I visualized some pleasant prospects regarding dinner. Just between the vision of tangy lobster Thermidore and charcoal broiled steak, I was interrupted by a familiar voice.

"Hi, Steve! Mind if I join you? I want you to meet a friend!"

It was Cyril Blakestone, III, the leading armchair adventurer of the Explorer's Club. I faced him and said in somewhat forced cordiality, "Hello Cyril. Glad to see you."

"You will be when you meet my friend," Blakestone babbled. "Meet Gregory Smith! He's been to China too. You ought to get along famously





Stunned, he leaped back wildly
in a mad attempt to save his life
—and the two men vanished!

together." Turning, "Greg, this is Steve Merrick. He writes books, too deep for me but he makes good money at it."

The man with Cyril was of average height and stocky. His skin was dark, as were his eyes. The expression on his face was quite familiar to me, slightly amused but inscrutable. His appearance in a somber business suit was startlingly different from what it had been when we first met. His name was not the same either.

"Smith" looked me straight in the eye without batting an eyelash. "How do you do, Mr. Merrick."

I took my cue and played it straight. "I'm very happy to meet you, Mr. Smith. Won't you join me?"

"Thank you." He accepted the seat and motioned to George.

When it comes to ordering drinks, no one can beat Cyril. As soon as George was within earshot, he called, "Fix me up one of those Hari Kiris, George, old boy!"

"Yes sir." George's face showed a trace of revulsion. He turned to "Smith." "Yours, sir?" he inquired politely.

"Stout, if you please," Smith said. Smiling slightly, he turned to me. "Tell me, Mr. Merrick, what do you think of Professor Gotlieb's theory about the glazing colors of the pottery from the dynasty of the Five Monarchs?"

I took this gibberish with a straight face and began a learned description of a broken vase. The drinks arrived while my glowing dissertation was reaching its climax. Yes! I had seen such a vase. In fact, it was in my attic right now, but it came from the dynasty of the five and ten rather than that of the Five Monarchs. Eventually, Cyril, bored with all this, made his apologies and drifted toward the other end of the bar. I desisted in the nonsense about

the vase and studied "Smith" closely.

"Last time we met your name was Ira Travers."

"I see yours is still Steve Merrick."

I TRIED a more direct approach. "What's the big secret anyhow? You obviously didn't want me to say anything in front of Blakestone. What's up? Did you 'run afoul of the law?'"

"Oh hardly that, Mr. Merrick. You remember the circumstances of our last meeting, I trust."

Indeed I remembered our last meeting. I had been doing a mineral survey for the Indian Government near the base of the Himalayas when he rode into my camp. I was cooking an American meal and didn't notice him until he entered the cook shed. He stayed the night with me and we had quite a long talk. It seems that he was going into the Himalayas to some lamasery to study. The reason that he gave was that he believed them to have much knowledge about, as he put it, "The Powers of Evil." He said he planned to do a little studying in practical ecclesiastics. I had not been able to draw him out any further other than a promise if we met again in the future, he might be able to tell me more.

"It seems to me that you were going to clarify one or two little things the next time we met," I suggested.

"As a matter of fact, Mr. Merrick, I came here to do just that."

"I take it then that our meeting wasn't an accident?"

"Not exactly," Travers admitted. "I wrote to your publishers and found your present address. I've been rather anxious to see you because I have a proposition which might interest you."

"Have you eaten yet, by the way?" I interrupted. "Frankly, I'm starved. We might discuss this over dinner."

"Sounds like a good idea," he re-

joined.

Luigi favored us with exceptional charcoal broiled steaks. Over dinner, Travers gave me a lot of information, facts and stories which all boiled down to this; that there was another race of beings inhabiting the surface of the earth and under the surface. It seems that some of these creatures look like men; some of them don't. Some of them are even intangible. From what I gathered, he didn't think they were a very peaceable lot. Travers claimed that they were directly responsible for a lot of the tragedies of history and that they had been indirectly responsible for practically everything that went haywire.

I'm not skeptical by nature. For a man who makes a good deal of his money as an author, skepticism is no advantage, so I listened, took it all in and made no comment. When he was finished, I won't say I was convinced, but his reputation did carry some weight. I had heard of him. Moving around the way I do, you hear a lot of things you normally wouldn't. He had appeared in a couple of articles and had a quick review of his life presented on the radio on James Nelson's "Parade of Men." It made quite an impression on me for I remembered it later when I occasionally heard tales of him. Most of these stories were unbelievable, almost mythical to me, yet the wide variety of people who told them testified that there must have been some factual basis. The narrators of these tales had varied from a Chinese coolie to an Indian Maharaja; from a Balkan diplomat to a beggar in Valencia.

NOW, I had the man face to face with me and I was determined to bear the whole story from his lips. I probed and questioned tactfully. Evasions were the only result. At the end

of the meal, I grew desperate. Again, I tried a direct approach.

"Travers, just what is this proposition you want to put to me?"

He smiled broadly. "Now that you've stopped using your psychology on me, maybe we can get down to the affairs at hand."

I winced a little. I hadn't thought that I had been so obvious.

"*Touche!*" I said.

"I might begin by saying that you're probably more interested in my biography than in any proposition I might make. Isn't that right?" Ira questioned.

I nodded my head slightly and qualified my assent. "If I can get your permission to publish it, perhaps at some later date, then I'm definitely interested in your biography."

"It's time that the story was told," Travers said. "I think no one will be hurt by it now and it might do a great deal of good. However, if you don't mind, I'd like a little more privacy than we have here."

"How about my studio?" I suggested.

He agreed and in not too many minutes we were comfortably ensconced in my sanctum. I provided myself with my notebook and settled back beside the fireplace. I offered him some of my own blend of tobacco and soon our pipes were glowing and the aromatic aromas of Latakia and Perique lent an almost mystical atmosphere.

"I'M NOT going to bore you with a lot of names, dates and places," Travers began. "It's enough to say that I was born in a little European country of a very poor family. I was old enough at the turn of the century to remember the celebrations, but not old enough to join in them. Because of our poverty, my early education was

non-existent. Early in life, I decided to strike out for myself. Since I had no trade, I became a beggar boy and in a very few years developed proficiency so that my lot was not too hard to bear. I had enough to eat and a place to sleep. I also traveled a good deal, learning much of life.

"I was yet a boy when first arrested in Vienna. The impression that I have carried even to this day from my first contact with the police, is highly favorable. They were kind to me and while my case awaited disposition, they were both friendly and obliging. I did not particularly dread life in an orphanage so was what you might call a model prisoner.

"It was while in custody that I met an old Jewish merchant. I have always suspected that it was the police who induced him to come and see me although they denied it. Not too long afterward, with the permission of the authorities, I became his ward. At first I insisted that I be allowed to work for him to repay him for his kindness, but he would hear none of it. He insisted that my first obligation was to obtain an education and so he enrolled me in a school, preparatory to my entering the University. He was a very wise and learned man and in the free hours which we had, we spent much time in discussions of philosophy and religion. I think I can safely say that I learned as much from him as from the University.

"When I entered the University, I was enrolled as his son and he maintained the father and son relationship even at home. It was he who first introduced me to the mysteries of the universe. His teachings were as much practical demonstration as they were philosophical discussion. It was with him that I first saw and contacted the 'world beneath our feet' and it was then

that I pledged myself to fight 'them' as my adopted father had.

"In my last year at the University, I felt the first of 'their' opposition and antagonism. An instructor, whom I had not had previously, was quite clearly my enemy. I believed him to be not of the race of men. I laid a careful trap and although I did not succeed in destroying him, he suffered sufficiently to reveal his true identity to me. A few days later, I was expelled when a series of circumstances seemed to prove I was a thief. The man who had become my father knew and understood all of this. He asked me if I felt the need of further academic training. I thought it over and decided I was ready to face the world.

"I considered my plans carefully and in the end rejected all professions for one reason or another. Eventually, my decision was to become a citizen of the world, saving lives where I could, doing good where I was able and always fighting evil. My mentor appreciated my decision and seemed to be glad although sorrowful that we must part.

"A few days later, I boarded the train for Berlin. The old merchant had given me enough money to last me some time and had made me promise to write when I could. That night, I cried for the first time in my life. To this day, the deepest affection in my heart is toward that venerable Hebrew.

"THE first of my labors began as a spy in the pay of the Germans and as such I moved across much of the earth prior to the first World War. Shortly before that war began, I entered the services of the British government, also as a spy. Neither of my employers knew of my connection with the other. In this, I was forced to play a lone hand. My purpose was to ferret out and if possible, to destroy these

creatures 'who were not men.' Failing in this, I would try to thwart their plans for destroying as many lives as they could.

"Eventually my connections became known, or I should say suspected, but at that time the war reached its close. I left Europe and came to America, again changing my identity to the name that you know today, Ira Travers. Here in the United States I searched out these creatures and little by little developed excellence in destroying them with their own plans and machinations. Since many of them have identities and reputations as successful men in many fields, you naturally heard of my coup which involved certain industrial tycoons and political leaders. In some cases, I have been able to trick 'them' out of their ill-gotten wealth which has made me today a comparatively wealthy man. This very wealth has enabled me to pursue 'them' and fight 'them' in any part of the globe.

"Understand my friend! It was not merely the suspicion of a deranged mind that they were not as they appeared, but in most cases, their own admission after they discovered that I was aware of their non-human status! Possibly, it would be well to relate a few of these events to prove my point."

By now, I could readily see that Travers' story would never appear as a biography or a factual narrative. But, I reflected, the word rates for fiction are just as high as the word rates for fact. Also, I could allow myself considerably more latitude in preparing the material. I have never been able to write a good hair-raiser. Maybe this would change the editors' opinion of me. Travers continued.

"BEFORE the great crash, some of these creatures played the roles of international financiers. While at a

dinner one evening with a group of financiers, I discovered that one among them was definitely a creature of evil. I was amusing myself by passing myself off to them as a Latin American diplomat. The next day I turned this identity to a good purpose. I sought out this creature and introduced myself as the Minister of War of a country which was on the verge of revolution. I carefully cultivated his acquaintance and stayed at his house as a guest. Meanwhile, my supposed native land came to the very edge of civil war. The time was ripe so I made my proposition.

"My country, I explained to him, was on the verge of bankruptcy in spite of its vast natural resources. The revolution, I assured him, would place these resources in the hands of the people's government. If, however, the fascistic incumbent government had the military facilities, they could easily maintain their power. I bargained carefully, and in the end he agreed to finance the military government to the extent of twenty-four million dollars, to be paid directly to the armament manufacturers. In return for his money, he was to receive complete mineral rights and all other concessions to the richest territories in that country which came to nearly one-half million square miles. Following suppression of the revolution, my government was to expropriate all foreign holdings in his area and turn them over to him.

"He greedily accepted the scheme and the next day I placed the orders by telegraph with the United States' four leading munition manufacturers. The sum total of these orders was slightly in excess of three and one-half million dollars. Since his name was not to appear in the transactions, a fictitious account was established with sufficient credit to cover all drafts. The

'evil one' was suspicious enough to see that I filled out all of the bank drafts to cover the orders. Of course, the armament manufacturers made no mention of pre-payment but merely itemized the orders and asked for confirmation. The government that I was supposedly representing cancelled all of these orders, knowing that their treasury would be unable to cover the total cost. Since the foreign country wanted to avoid all notoriety, they sent apologetic communications stating that they were forced to cancel the orders due to unforeseen conditions.

"I called personally on each of these manufacturers in a few days and made apologies for my country saying that it had been deemed inadvisable to begin arming because of the diplomatic situation but that my country would pay a small indemnity on the cancelled orders. They were more than willing to accept this fee amounting to about ten thousand dollars in each case and they returned the drafts to the original account.

"SO FAR as the banking concern knew, I was the original depositor so there was no hesitation about giving the sum to me in negotiable securities. I converted these securities and sent the revolutionary party one-half of my profits. I was gratified in a few short months to learn that the insurgents had taken over the government and had instituted a democracy.

"Within a week, of course, the 'evil financier' learned of his mistake and began plans for revenge. He carefully followed the trail I had left for him and arrived in the capitol of the country while the revolution was in progress. Although he swore his innocence right up to the time of his execution, he could not explain away the presence among his effects of a certain paper which was

an agreement between that country and himself. It stipulated that in return for twenty-four million dollars, he was to receive indefinite leases on the richest areas in the country. It was an authentic-looking treaty and it was signed by the Minister of War of the deposed dictatorship. Since the Minister of War had occupied a prominent position before a firing squad, there was no one to refute the agreement. The financier's unsupported word didn't carry quite enough sincerity and the judges decided in favor of the document. He was shot at sunrise the next morning."

I looked at Travers skeptically. "Just how did they happen to find that document?"

Travers' smile broadened. "Well, it seems that someone had a grudge against the millionaire and he notified the government that this tycoon was trying to undermine the new government and had only come there to contact the few remaining members of the former military clique with the soul purpose of starting a second revolution."

"I wonder who could have done that!" I asked sarcastically.

Travers looked at me benevolently. "I haven't the vaguest idea!"

I HAD heard this story before but had never known what happened to the "man" Travers had swindled. When all this was put into a story, the difficulty would not be in dramatizing the events but in making them believable.

"By the way," I asked, "I thought you said that they admit their identity when you have them cornered!"

"Oh they do!" Travers insisted. "I received a letter sent by the Chief of Police of that country. In it he explained that the 'man's' last request had been to send a letter to his 'brother'

and the letter was enclosed. I have the letter here."

Travers held forth a small, white envelope. I opened it and inside was a single sheet of paper. On it were the following words:

"THE WORLD BELOW WILL AVENGE ME!" There was a strange geometrical figure below this.

"What's this dingus?" I asked.

Travers gazed at me through half-closed eyes. "They often use that for a signature. It's supposed to carry some power with it, particularly if it's written in blood."

I realized with a start of horror that the letter was not written in BROWN INK! "You mean he wrote this in his own blood?"

Travers nodded. "He was going to lose it anyway and I supposed he rather hoped I'd drop dead when I read the letter or some such thing."

"YOU don't believe in all this hocus-pocus do you?"

Travers was inscrutable again. "People have been known to die upon opening a message like this," he said.

"It didn't work on me!"

"It wasn't sent to you either."

I shrugged my shoulders. "Well, I'll argue this point later. I'd like to hear the rest of your story, first."

Travers chuckled. "I'm afraid the rest is even less believable, Merrick, but since you want to hear it, I won't disappoint you."

He relit his pipe and continued.

"You've heard a lot of my adventures from various sources so I won't retell them. The only thing I could add would be the parts you wouldn't believe. Instead, I will give you a general outline of what has happened to me.

I REMAINED in the United States for some time and did what I could,

but felt sorely in need of more knowledge. I looked about to see where more might be learned. Finding very little more to add to what I already knew, I started traveling about the world to see what could be found in other countries. I saw my adopted father again and we searched together for a possible source of new knowledge. Some of our correspondence returned to us with the same suggestions in each. A man who was studying for a doctorate at Oxford was recommended. I left Vienna and went to Oxford to consult this man. He, it seems, had studied some unknown sciences at a lamasery in Tibet.

"At first, he wouldn't reveal its location to me but as I grew to know the man, he became more friendly. Eventually, he told me where it was, but the territory was almost impassable. I decided to try it, though, so returned to Vienna. I found that the Jewish merchant had gone to Berlin on business. I waited nearly a month but he didn't return nor was there any word from him. Posing as a special envoy of the Austrian government, I went to Berlin. My purpose was ostensibly to search for a spy who was presumed to have dangerous information both to Austria and to Germany.

"I was given extraordinary cooperation by the gestapo and even given the opportunity to see the secret records of political prisoners. Eventually, I found my adopted father. He was in Dachau. As a dignitary, naturally I was invited to inspect the camp. During my inspection, I was in the kitchen long enough to pour six ounces of potassium cyanide into the soup that was to be served to the officials. I regaled them with stories and praised them for their efficiency until the soup course was over at luncheon.

"When the last attack of fatal indigestion was over, a guard at the door stepped inside. I stabbed him with

commandante's dagger. The other guard outside the door yielded readily to the technique of the commandos. It was touch and go for a while, but the driver of my car was in uniform so we were not questioned at the gate. I rather imagine it wasn't unusual for prisoners to be removed for 'special questioning.' Finally, we succeeded in crossing the German border after many trials and tribulations.

"I'm still very thankful that German discipline made all the officers take their first spoonful of soup when the commandante took his.

"Of course, we didn't stay in Austria any longer than was necessary to liquidate my benefactor's effects. A week later he was on the plane from Lisbon enroute to a small country in South America where I was sure he would never be found."

I looked at Travers aghast. "If you murdered a prison staff at Dachau how does it happen that the world never heard of it?"

HE LAUGHED softly. "It seems," he continued, "that the agent sent to find the culprit returned with positive proof that the murderer had been killed in an automobile accident. The worst part of all, though, was that his name was Epstein. It would hardly do for the 'master race' to admit that a Jew could outwit a select group of their supermen, so the entire affair was carefully hushed up."

"I'm sure the soul of Mr. Epstein rests more easily now that his race has been credited with such a victory. I simply chose his name from the report of traffic accidents and manufactured the necessary evidence."

"It's incredible!" I breathed. "Yet, so are the other stories I've heard about you. I myself saw you disappear over a mountain pass alone into a country

where a lone man stands hardly a chance against the natural dangers of the territory. Yet you're here! I can't doubt the evidence of my own eyes!"

"I admit, Mr. Merrick, that when I look back on it, it's just a little bit incredible to me, but since I can't doubt my own existence, I'm forced to believe it's true. I must admit that I've had a lot of luck in my life and there have been times when I have failed, but these, as you can see, were not fatal failures. But to get back to my story!

"After seeing my adopted father off in Lisbon, I followed the directions given me by my comrade in London and in due time reached India. Once I was able to render a service for the Nazim of Hyderabad."

"I heard about that," I interrupted. "It seems that you recovered seven million pounds worth of jewels which belonged to the treasure house. Isn't that right?"

"It was only six and a half million pounds sterling," Travers corrected, "but in any case, his majesty was grateful and presented me with this."

He drew forth his watch fob. On the end of a gold chain, was a perfect tear-shaped, pigeon-blood ruby. It had a brilliance and life of its own and glowed as though lighted from within. Its cutting revealed the heights of craftsmanship of which the East is capable. Travers' voice was nonchalant as he continued.

"This stone is called 'The Tear of the Prophet.' An Amsterdam jeweler once offered me one hundred and seventy thousand guilder for the stone. I imagine the sum was as much for its history as for the gem. History has it that in its first cutting it was the property of Haroun el Rashid. Whether or not it's true, it certainly has caused its share of bloodshed, to be justly famous. In any case, it means more to me than what I

could realize for it.

"His majesty, the Nazim, didn't feel that his obligation was discharged, so when I asked him for papers that would allow me to cross the Tibetan frontier he was more than glad to prepare them for me. He provided me with transportation to Punaka in Bhutan. I proceeded alone westward toward Nepal and ran across your camp just within sight of the mountain pass that I was to cross. I am indeed indebted to you for an excellent American meal which gave me strength to go on. I promised you when I left you then that some day I would be able to tell you more.

"WHEN I left you, I went over the pass that is called Rangri La. I proceeded on foot for two days at the end of which time, I had reached the limits of my endurance. My informant had told me that I would receive guidance when once inside the country, but frankly it's difficult to be optimistic when you're thirteen thousand feet in the air, standing on powdery snow with nothing to guide you in any direction. I was familiar enough with weather conditions to know that a storm was brewing. There could be no doubt that I wouldn't survive it.

"I became rather resigned to death although was rather sorry that a promising career should come to such an abrupt end. My regrets became less as each hour passed. Suddenly, I felt warm again. No longer did the howling wind bite through my heavy clothing. Then, the storm began. I could hardly feel the biting snow flakes on my cheeks. I actually felt warm and refreshed although I was getting drowsy. It wasn't until then that I realized that this was the end; that my feeling of warmth and security was only the failure of my sensory nerves. The shock of realization that in another hour I would

be frozen to death was enough to start me moving again.

"I could see nothing except the driving snow and the ground under my feet. I didn't know if I was going in the right direction, but very much doubted it. I knew I was going fast but hoped to prolong my life as long as possible.

"The wind was making sounds like a moulding organ in a haunted church. The melodies it played around the barren rocks and over the snow was my funeral dirge. I fell many times, but was always able to regain my feet and move on. Dying has never held too much fear for me, for it's impossible to be afraid of a constant companion. But there, high in the unknown mountains, I was alone, and dying alone is the greatest terror of all. On the battlefield you have comrades, but there, plodding along, I had none but the wind. It's such a horrible experience to be able to feel your life ebbing away, little by little.

"Finally, I fell for the last time. The snow felt warm and I simply didn't have the strength to get up. The constant wail of the wind began to form words in my ear, talking to me, soothing me to sleep. Then, out of the driving white hell, I saw figures of men, but by then I didn't care. They saw me, though, and in a moment I was rudely shaken to my feet. The wind and snow prevented any conversation so I allowed myself to be half dragged to a small litter. As I lay there on the litter jogging along to where I knew not, I began to feel warmth, real warmth! I noted with a new awareness that the crystals of snow that struck the litter and my clothing, were melting. This warmth seemed to steal through every fiber of my being. I came back to consciousness and took note of my surroundings.

"My bearers, I was startled to discover, were clad in only the lightest of

garments, similar to a Chinese robe and seemingly of silk. Their heads were uncovered and their feet shod only in open sandals. One of the men who walked beside me was obviously occidental and was no more heavily dressed than the others. He was wearing a light shirt, a pair of riding breeches and boots. His head was likewise uncovered. One of his hands rested on my shoulder and it was from this that the delicious warmth emanated. I was too exhausted to note any more. I lay my head back on the litter again and presently slept.

"HOW long I slept, I didn't know, but when I awoke I was in a bed, between clean white sheets. The room was fairly low, the ceilings arched. It was lighted in the center by an indirect type of lamp obviously electric. The walls were pale green as were my blankets. The only other furniture in the room was a chair, likewise green and of some Oriental type of construction that I could not place. The floor was covered with a richly patterned carpet whose origin also was obscure.

"I must have made some sound on awakening for even as I studied the room the door softly opened. The man who had walked beside my litter entered the room, but now he was dressed in a gray lounge suit instead of riding habit. He smiled when he saw that I was awake.

"I'm glad you're awake now. We'll be having dinner shortly and I hoped that you would be able to join us."

"I hope it isn't a very bardy meal," I responded. "I don't feel up to my usual standards yet."

"I can believe that," he replied. "It's even remarkable that you are able to eat but I think you'll be on your feet in no time. At least, I hope you will for I feel responsible for your condition."

"Oh?" I questioned.

"Yes," the man replied, "I knew you were coming but I had expected you to wait near the border. Consequently, I missed you. I just happened to spot you before the storm, and after summoning some of my friends, landed and went after you on foot."

"Landed!" I repeated blankly.

"Yes," he replied, "we have aircraft and many other modern inventions. Technically speaking, we are considerably more advanced than the rest of the world. You came here to learn from us. Surely you expected us to know something!"

"How did you know I was coming?" I asked.

"We have many contacts with the outside world. You will find out all about them in time, though," he explained. "If you feel well enough to get up, I have taken the liberty of having a place set for you at the table. I have some clothing for you if you accept the invitation."

"I accepted and at dinner my education began. The story of the place was quite simple. A group of men long ago found fighting the 'evil ones' alone was risky and sometimes impossible. They began to cooperate with each other and soon had a smooth working organization. But then, as they aged, they realized that when they were gone there would be no one to carry on. To perpetuate this knowledge, they made this retreat, inaccessible to the world. As new members were sought, new bits of learning were added to the already vast total until this place became almost a stronghold against evil. It was then that a Buddhist monk arrived and the knowledge of the East and West were consolidated. Today, it is practically a University of Truth to which fighters of evil eventually gravitate when all

other sources of learning fail.

"I remained there for three years until I was sure that I would be fully capable of dealing with all the 'evil ones' I might come in contact with. Then, I began my greatest effort in the service of humanity, a service which is not yet complete.

"I started the long trip eastward. I was able to travel by air to Chengtu, but from there had to go by excart and occasionally on foot. Eventually, I reached the front lines during a bitter fight between the Chinese and Japanese. The fighting was stopped by mutual agreement to allow me safe conduct. I was and still am recognized as a Buddhist priest. Buddhism still had a strong enough hold in Japan so that I was held in high regard. The word had gone out some time before that a prophet or holy man was coming to Japan. When the firing stopped I walked slowly through the lines. The Chinese with drawn and fixed bayonets walked behind me. I refused to take any notice of them and thus it went on for twelve miles. The Japanese were afraid to fire for fear of hitting me and so sacrifice their immortal souls. The Japanese commander pleaded with me to get down so that he might stop the advance, but I stated that for a priest to grovel in the dirt would be an insult to the Infinite.

"Finally, the Chinese stopped and dug in to hold what they'd gained. Of course, the Japanese commander, having lost as much face as he had ground, begged permission to be excused from my presence. He chose the quick way instead of the traditional Hari Kiri, and made a one man banzai charge on the Chinese lines.

"The cordiality of my reception was somewhat lessened by the events of the day, but I was speeded eastward across the China sea to the home island. The

reason for the extreme consideration given me was that I was the highest authority of Buddhism in Japan. If I would officially recognize the Emperor as God, Shintoism and Buddhism could be consolidated. Presumably, that was why I had come.

"ON MY first day, I had a secret audience with Hirohito. I stated at the time that I would pray for Divine guidance in making my decision. He, in turn, informed me to choose carefully and wisely and that while the decision was being made to consider myself at the head of all worship, to go where I saw fit and to feel free of any restraint.

"In a way this opportunity was more than I had ever expected, but, as you'll see, I made good use of it. Throughout my stay they used every trick known to modern science to convince me of the Divine stature of the little monkey. While I slept voices and visions entered the room, but I appeared to be an abnormally sound sleeper and the man-made illusions increased in intensity every night. Still I slept on. They reached the climax of this mummerly one night with wind machines, artificial lightning, motion picture projections and a simulated earthquake. A balloon was sent up over the northern part of the city beneath which they suspended magnesium flares, patterned like a sword or scimitar. I could hardly pretend to sleep through this bolocaust. The loud speakers, concealed about the grounds, began to blare the voice of Emperor, but the show was cut off by the opportune arrival of the United States Army Airforce. The blazing sword in the sky provided a superb beacon and they systematically reduced that section of the city to rubble.

"The next day, I made no mention of the show but concentrated only on conversation about the air raid lending

the impression that I had awakened just as the first bomb fell. The men who had been in charge of the affair were asked as a matter of course to disembowel themselves, and a faithful follower of Buddha informed me that they did.

"I immediately proclaimed a day of prayer and mourning which was all inclusive. While the populace and soldiery were engaged in their devotions and prayers, the mop-up raid began and was over before resistance could be organized. The diplomats then had a brilliant idea and I was officially appointed confidential advisor to the Emperor which I accepted. The proposition was put so nicely, that in doing this, I might save millions of lives, that I decided it was too good to resist. I laid aside my ecclesiastical robes and announced that my Divine decision was yet forthcoming and let the matter drop.

"In the capacity of advisor, I could examine whatever I wished and make recommendations to the Emperor. My first task was to peruse a huge box full of blue prints and models sent by Germany to assist the Japanese. I read everything with great care and one by one passed them along to the scientific staffs for development.

"THE first of the plans which I passed on was a long range artillery piece which had a specially hardened copper alloy barrel. It was to fire shells of a slightly softer copper alloy. I added a note to the specifications saying that the alloy in the shell formed a protective coating which allowed the projectile to be used without being varnished or lacquered. A sample of the metal was inclosed so I substituted a fairly hard grade of dental gold alloy. Their chemists found it to be quite non-corrodable and didn't hesitate to allow

the test shells to be filled with picric acid. I was once told that copper picrate is very sensitive and highly explosive.

"When the first model of the gun was tested, the resulting explosion of the projectile inside the barrel of the gun set off the remainder of the shells on the ground. This shock in turn set off the shells already in manufacture since the experimental laboratories were close to the proving ground. In the explosion more than three hundred Japanese scientists and workers were saved the trouble of committing suicide.

"This process of alteration went on for some time until I exhausted the contents of the box. I also added a few ideas and diagrams of my own. One of them was a plan to set up giant smudge pots in the Aleutians whose resultant smoke would blanket the United States. The plan predicted that within a matter of weeks a partial ice age would ensue and America would be frozen out of the war. The dense smoke from the pots was supposed to effectually screen out the light and beat from the sun. This idea was ignored, but another equally fantastic was tried.

"This plan called for a gas generator to emit a constant stream of poisonous gas through a huge tub of soapy water. The soap bubbles, filled with hydrogen cyanide, were to carry the gas undiluted to the United States when weather factors were suitable. For some reason this idea struck them as being feasible and they forthwith set up a gas generating plant on the sea shore. When the meteorologists said that conditions were right, the immense generators were started. Millions of cubic feet of HCN poured into the atmosphere. Some of it did form bubbles, but it was almost a mathematical impossibility that the bubbles could span the ocean. Many of the bubbles broke immediately and as a consequence, fatalities were any-

thing but uncommon. It was only when the death toll reached an appalling figure that the experiment was ordered discontinued.

"Soon the box and my bag of tricks were empty. By then the Japanese estimations of German science had reached a new low. There was in this box, however, a process which didn't look to be the least bit fantastic. A little careful examination convinced me that this plan might be useful. My disappearance aroused no comment whatsoever and I believe that there were many who assumed and hoped I had met with some fatal misfortune. In any case, I turned up as a Swiss physical culture expert who had been a victim of amnesia.

"**W**HATEVER happened to the

Swiss I do not know, but my disguise was sufficient to allow me to complete the masquerade. I was solicitously returned to Switzerland, but en route to the hospital there, I made my escape. It took me several months to reach the United States and once there, it took only three days to obtain an audience with the President. When he had observed the plans and specifications I had brought, he was greatly excited. I was called back for another interview the next day. This time, there was another man present whose name I can't reveal. He too was greatly interested in what I had brought. It was then that I found that they were pursuing the same course of investigation and was later told that of the ninety-six methods that had been evolved, none were satisfactory. This one, they seemed convinced, was the answer. Since there were many things that I knew regarding this development, I was asked to participate in the research. I was commissioned a Brigadier General in the army under a fictitious name and

we pitched in and coordinated the German results with those already obtained here.

"The process I had brought back was officially titled Process 97 and was the successor to the now famous Manhattan project. Our labors were soon crowned with success and great manufacturing plants began to work on Process 97, the atomic bomb. When I considered my usefulness to be at an end, insofar as the research was concerned, I asked to be de-commissioned. My request was granted but not before I received this."

He opened a small plush-lined box which he had had in his coat. In it was a medal, a bronze star surrounded by green laurel wreaths. It was attached to a bronze bar surmounted by an eagle. The bar bore the word, **VALOR**.

I gasped. "The congressional medal of honor!"

He smiled. "It was awarded in secret, of course, but it's none the less satisfying. They also confirmed honorary citizenship on me which is no less satisfying. Now that the war is over, however, my work begins in earnest. The world is beginning to rebuild itself and it must be rebuilt in the right direction. A brotherhood of humanity must be established which transcends international boundaries. Even the boundaries must be eliminated if necessary to achieve that brotherhood! You see, these 'powers of evil' are consolidating, growing stronger and eventually a fight for supremacy will come. It will be a question of whether mankind perishes or whether they perish. There can be no surrender or quarter in that war! And frankly I can see no redeeming feature about 'them' while mankind has much in its favor."

I looked at Travers with a puzzled frown. "Just what has all of this to

do with me?"

"Well, to put it briefly, Merrick, I like you, I like what you've done and the ways you have done them so I want you to join me. You're a good writer as well as a good sport and you're resourceful. You're also a good fighter and I'd like to have you on our side. They say that the pen is mightier than the sword and we sure could use a good pen on our side! There certainly are enough on the other side!"

I persisted. "Specifically, just what do you want me to do?"

"I want you to go to Tibet!" he replied.

"AND become a mystic?" I asked.

"Why not?" Travers said. "There's good money in it."

"I'm just not the type!" I objected.

"Do I look like the type that reads tea leaves or crystal balls?"

"That's true," I admitted, "but I still don't believe in all this!"

"That's just why I want you to go to Tibet so you can find out the truth for yourself."

"Suppose I'm still not convinced," I countered, "I'll have wasted a lot of time, won't I?"

"Did you worry about time when you flew for the Loyalists in Spain?"

"No," I answered, "but I wrote a book about it and the publisher didn't pay me in peanuts!"

"What's to stop you from writing a book about Tibet? And the University? And me? Don't you think that would sell?"

I looked at him. For a minute I was speechless. What a story that would make! Then I came back to earth. I shook my head.

"Uh-uh. No sale, Travers! I heard you were a smooth operator, but I didn't know how smooth until now."

For a moment he looked startled. "I

don't follow you, Merrick. What do you have in mind?"

"I don't think! I don't know what you have in mind. All I know is that it's something big and I don't want to get caught in the middle when it breaks!"

"You think that maybe I might use you as a tool in one of my schemes?" Travers questioned.

"That's exactly it!" I replied. "You had it right when you said I was interested in your biography and not in your proposition. How much do you want to let me use the story? It can only be used as fiction so I can't offer too much."

"It's yours for the asking, Merrick. We'll call it an even trade. You gave me two good square meals, one in India and one here in return for a good story."

"It's okay by me," I replied.

Travers rose to leave. I offered to drive him wherever he wanted to go, but he declined. I was just a little ashamed for being so abrupt, but on the whole I was convinced I had saved my skin by refusing.

I decided to hammer out an outline for the story before I went to bed. The sun was just coming up when I finally covered the typewriter and went into my little kitchenette. I had some bacon, eggs and coffee and thought about Travers.

If he'd been on the level, I thought, he was nuts! And I'd be nuttier if I joined him. If he wasn't on the level, I'd be just as nuts to have anything to do with him. Whenever one of Travers' schemes matured, Travers always came out on top. Whatever he had in mind, I certainly didn't want to be the fall guy.

I drained the last of the coffee from my cup and went contentedly to bed.

After Travers' story was finished,

dramatized, and put in manuscript form it should be worth a nice hit of change. I decided against putting it in book form, but rather thought I'd submit it to a magazine. There are lots of them that sell that sort of stuff.

IT WAS midafternoon when I awoke just in time to take care of some pressing matters before I had dinner. It was along about eight o'clock when I got to the Explorer's Club. The dining room was nearly empty. I didn't give the meal the attention it deserved for I was still formulating the story. I must have been pretty deeply absorbed for I didn't notice the approach of Cyril Blakestone, III, until he blatted in my ear.

"I say! It's deucedly dull around here this evening, isn't it old chap!"

I gave the pest a hostile stare. "It is—NOW!" I replied succinctly.

Blakestone's ability to ignore pointed remarks would lead the average observer to think he was a trifle dull. His next resource is that of being a human phonograph. Whatever is said to him will be repeated almost verbatim to every willing or unwilling listener that he can find.

He drew an uninvited chair up to my table and prattled on endlessly about local affairs, tennis matches, the races and the grounds Mrs. Van Arden Drummand was using for her latest divorce. He paused long enough to ask me a question.

"By the way, old bean, our friend Mr. Smith left town today. Did you know?"

"Did he? When did he leave?"

"This afternoon, about four. Got on the same train that jolly old Bernice Rendlaw was on. She looked like a million as usual, dressed in one of those tweedy affairs. Sets off that waist of hers to perfection, doesn't it? You've

seen her, of course! Nice little dish. A hit too—"

"Never mind Bernice!" I cut in viciously. "Where was Trav—er, Smith going?"

"You don't have to hite my head off! I was just coming to that. He didn't say a word to me. Just climbed on the train. Bumped into Bernice on the step. Stopped and apologized profusely and all that. Of course, Bernice went for it in a big way. She's like that. Likes them suave and distinguished. Just her meat! I'll wager in a month she has him on her string. You remember how it was with that oil tycoon. He wasn't in town over a month before she had him eating out of the palm of her hand."

"Will you shut up about Bernice! What train did Smith take?"

"I'll be a monkey's nephew if I know!" Cyril replied blankly.

"You are!" I snarled. "Where was Bernice going?"

"You're an odd chap!" Blakestone said with one of his insipid smiles. "One minute you want me to shut up about dear old Bernice and the next minute you want to know where she was going. I say old chap, unless you make up your mind, I can hardly tell you what you want to know."

My voice was venomous. "WHERE—WAS—BERNICE—GOING!"

"Dashed if I know! She called me this morning and asked if I'd be an old dear and help her get her luggage to the station and all that. But just between you and me, old man, I wouldn't want to see you get mixed up with her. Oh, she's a cute trick and all that but, well you know how it is, I wouldn't say anything at all except you're such a special friend of mine, Stevie, old boy!"

I SWALLOWED my rising gorge with great difficulty. Fortunately, the

nuisance decided to leave. He paused at the doorway.

"You *will* watch your step, won't you, Steve? You authors are a jolly mysterious lot. Intrigues them and all that, you know. Wouldn't let myself get in too deep, old man. Well, cheerio, Stevie!"

It was a very satisfying thought to know that my reputation would be blasted to smithereens by tomorrow morning. I could have cheerfully strangled Cyril Blakestone, III. The more I thought about him the angrier I grew. I finally went out to get some fresh air and cool off. The doorman greeted me with some pleasantry to which I replied with a snarl. Then feeling ashamed of myself I gave him a five-dollar tip. From the look on his face I could easily see he thought my mind had become unhinged. That, however, was the least of my worries.

The streets were much quieter than usual which helped my jangled nerves no end. It usually took me several hours to recover from an interview with Blakestone. Tonight would be no exception. I stopped at an intersection, still staring moodily at the tips of my shoes. Two men stepped off the curb in front of me and I automatically followed. A blaring horn and screaming tires jarred me back to reality. I flung myself backward toward the curb instinctively. The car missed me but it was close enough to tear the knee of my pants. My first thought was for the two men in front of me. They were nowhere to be seen.

It became apparent when the driver of the car started to ball me out that he hadn't seen them either.

"What about the two men who were in front of me!" I gasped. "You must have run them down!"

"What two men? Are you drunk or something?"

"Ah go home and sleep it off!" a nasal voice yelled from the curb.

The driver of the car grated the gears and lurched off. I half expected to see two prostrate bodies, but the street was bare if not too clean. A burly policeman shouldered his way through the crowd.

"All right! What's 'goin' on?"

"Some stew bum walked into a car," the same voice from the curb replied.

The cop spied me. "Hey, you! What's— Oh, it's you, Mr. Merrick!"

O'Rourke, the local cop, was one of my ardent readers.

"Did some dirty — hit you?" he asked solicitously. "Did you get his license number? We know how to handle bit and run drivers in this town!"

"It's all right, Officer O'Rourke," I said shakily. "It was my fault. I thought I saw someone step off the curb ahead of me and I didn't bother to look at the signals."

"Are you sure you're not hurt?" the Irishman asked.

"It's nothing that a good tailor can't fix. I'd like to let the whole matter drop."

"Okay, Mr. Merrick," he replied. He turned to the crowd. "All right. Break it up, you! Get goin' or I'll run ya in!"

THE crowd dispersed and I walked slowly back to the Club. I hadn't been drunk before but had some high hopes now. Half way to the Club I changed my mind and headed for home. I hailed a passing cab and in a few minutes walked wearily up to my studio. The light was out in the hallway so I could barely see in the gloom. I reached out to put the key in the lock and then, for some reason, stopped. I transferred my key to my left hand and lit my cigarette lighter. By its meager illumination, I saw a few filaments of

web stretching across the lock and almost directly over the hole, a large, evil looking, black spider. I crushed it quickly with the heel of my lighter and gingerly turning its ugly body over, saw on its abdomen a bright red hour glass. As an afterthought, I scooped its remains into an envelope and then, more cautious than usual, entered my quarters. Inside, nothing appeared the least bit out of order. I thoroughly explored the place and finally after satisfying myself that it was habitable, sat down at my desk.

This was certainly my unlucky night. While I was puzzling over the events, an idea occurred to me. I walked quickly over to the bookshelf and picked out a volume on entomology. Fifteen minutes reading convinced me that the last place I should expect to find a black widow spider was in a modern concrete building in the center of a thriving city. The book was uncertain as to whether the spider's bite was fatal but I had no desire to put it to a test. According to the book, this was also an unusual time of the year to find one.

After a little further thought, I shrugged my problems off and attributed them to coincidence. Just to be on the safe side, though, I took my revolver out of my desk and loaded it. The manufacturer claimed that nothing could withstand a .357 Magnum. I was really getting just a bit jittery, but the heavy weapon set my mind at rest. I tucked it under my pillow, undressed and turned out the lights. With the blankets drawn over me a sense of security that is common to every man settled over me. I was getting as jumpy as an old maid with a burglar in the house. Trying to relax, I breathed deeply and slowly, but sleep was long in coming.

I had just reached a stage of de-

licious drowsiness when I was startled by a rustling sound from the kitchenette. I lay rigid and still, listening, breathing through my mouth so as to make no noise. The sound was not repeated. Minutes passed slowly. Finally, cursing myself for being a fool, I buried my head in the pillow. I had to get a grip on myself! This wasn't like me, going all to pieces. I don't know how long it took for me to go to sleep but I eventually lost all awareness.

WHEN I awoke, it was still dark.

Although I could hear no sound, I had a definite sense that something was wrong. I was too sleepy to reason why. All I wanted to do was go back to sleep, but somehow I couldn't. Forcing myself to throw back the covers, I rose partly upright, then fell back. I knew vaguely that I should get up but I didn't care. Nothing seemed to matter. My mind could hardly function, but somewhere deep inside me the will to rise, to do something was strong. Something! Something! But what?

My mind was leadened, drugged. The urgency grew too great and I forced myself to get up. I dragged the heavy revolver with me. As I stood, I was nauseated, weak. My knees almost collapsed under me. The revolver fell from my fingers. My hands were numb. I staggered across the room, fell and crawled. I reached the door and lay there. The faint seam of light under its edge, illuminated my face. A blast of air struck me from the hallway. As I lay there gasping, it tasted sweet and fresh in my mouth. That was it! Air!

Panting heavily, I dragged myself to a crouch. My nerveless hands gripped the knob, slipped away and gripped again. By exerting every ounce of strength I possessed, the knob turned slowly. The door swung inward and

I fell backward. I painfully dragged myself toward the rectangle of light, my fingernails digging into the thick carpet. Halfway across the doorsill, my strength failed me. I lay there half unconscious, unable to move.

Footsteps pounded up the stairway. A man's voice came to my ears as though from far away.

"My God, Doris! Smell the gas! Quick! Run down and call an ambulance. I'll try to air the place out."

"Hadn't you better give him artificial respiration?" a woman's voice echoed.

"Yes! Yes! I know what to do. Now hurry up! Get going!"

Her light footsteps pattered down the stairs as the man stepped across my body. In a moment I heard the crash of breaking glass, a pause, and then another crash. Soon I felt strong arms under my armpits, dragging me into the hallway. I was maneuvered unresistingly into a prone position, my cheek cradled on my arm. Strong pressure on my ribs expelled the air from my lungs forcibly, then the pressure was released. Again, press—release—press—release. I heard a man's voice counting slowly.

"One—two—three—four." On and on endlessly repeating. The urgency was gone. The inner voice didn't drive me any longer. I relaxed and slipped into darkness.

I OPENED my eyes. The room around me was white and clean. There was a tangy antiseptic smell in the air. Then I groaned. A thousand little demons were pounding on my skull. My whole frame ached. I closed my eyes. There was a stir of movement beside me, but I didn't open my eyes again. I wanted to die! Soon, I lifted my eyelids cautiously. The first thing I saw was the sympathetic face of Officer O'Rourke.

"Are you awake, Mr. Merrick?" he rumbled softly.

"I guess so," I whispered. "What happened to me?"

"Ah, you had a close one, you did!" O'Rourke informed me. "All the burners were wide open on your stove. Another five minutes and you would have been a goner."

My mind was getting clearer now. "Are you sure all the burners were open?" I asked.

"That they were," he answered. "I guess you decided to make a quick job of it."

"What do you mean, 'a quick job?' I didn't do it!" I protested.

"I don't like to be contradicting you, sir, but I don't see how anybody else could have done it. The police report shows that all your windows were locked. Your neighbors downstairs heard some noises from your place while he was seeing some friends off at the front door. He heard a thud on the floor and came upstairs to investigate. He found you half lying out in the hall with the whole place smelling like a gas works. I found out about it just as I was going off duty so asked the sergeant if I could come up and watch you. You know I'm a friend of yours, Mr. Merrick, and I wouldn't want you to get into trouble."

"What time is it, Officer O'Rourke?" I asked.

"Just call me Mike," he said as he studied his big turnip watch. "It's just five-thirty. I'm supposed to call the Doc when you wake up, Mr. Merrick, but I wouldn't be saying too much to him. Just sort of pass it off and say that you were fixing the stove or something and forgot all about it."

He pressed the signal briefly and shortly a stiffly starched nurse rustled into the room.

"Oh, you're awake, Mr. Merrick,"

she said brightly. Although this was self-evident, I nodded my head. She pranced out of the room and presently returned with a tall cadaverous man in a white office coat.

"Ah! You're awake, Mr. Merrick!" he said with a toothy grin. Again, I confirmed the obvious. "I thought we might have a little chat, if you don't mind. I'm Doctor Monroe."

"If you insist," I replied none too cordially.

His chuckle was rather forced. "I wonder if you would mind stepping out for just a moment, officer?" He glared at the nurse. "That's all nurse," he said imperiously.

Meekly, the pair left the room. The offensive physician drew a chair up to the edge of my bed and straddled it.

"I DON'T imagine you're feeling right up to snuff, Mr. Merrick."

"You can say that again!" I mumbled.

He laughed heartily at this obscure witticism. "Tell me, Mr. Merrick," he continued, "what made you want to do it?"

"Do what!" I snarled.

"Ah—commit suicide?" he said hesitantly. "The police report states that someone at your Club said you had an affair with a woman who left town yesterday. Was that it? Were you despondent?"

"Oh for God's sake!" I replied. "I never saw the woman in all my life!"

"Oh come now," he remonstrated patronizingly. "It won't go any further than my private case histories. Professional ethics, you know."

"Yes!" I mimicked. "I'm an author! Anything you tell me won't go further than my next story! I tell you, I never saw the woman. A friend of mine got on the same train and I wanted to know what train it was."

Dr. Monroe looked rather crushed. "Oh!" he said in a small voice. "Well—ah—just what did happen, Mr. Merrick? I have to put something on your case history, you know."

"To put it briefly, someone tried to murder me! I didn't use that gas stove after I cooked breakfast yesterday morning."

I could immediately see that was a mistake. His face lit up like a theater marquee.

"Ah ha!" he said like Sherlock Holmes on a hot clue. "Who do you think is persecuting you?"

"Listen, you medical moron!" I raged. "I'm as sane as you are. Saner maybe! How the hell should I know who tried to kill me? Some lunatic who doesn't like my stories, for all I know!"

"But Mr. Merrick," he said in his best professional voice, "how do you account for the fact that you were alone in your apartment when it happened?"

"If I could answer questions like that," I snapped, "I would be a detective and not an author! Let the police answer that one."

"Huh?" he replied. "Oh yes, of course. Well, I've got to run along now. I'll drop in and see how you're getting along a little later."

As he opened the door, O'Rourke looked in anxiously.

"How is he, Doc?" the Irishman asked.

The doctor gave him a belligerent stare. "He's uncivil but sane, I regret to say!" He turned and stomped off down the corridor.

O'Rourke's face was wreathed in smiles as he came in the room.

"There! I knew you'd be O. K." he said heartily. "You won't be trying anything like that again, will you, Mr. Merrick?"

"Now don't you start it too, you fat-

head!" I screamed. "I've had enough trouble from Apollo the physician!"

O'Rourke looked puzzled. "Apollo? I thought his name was Monroe?"

"Never mind," I grated. "You can do me a favor, Mike. Call the nurse and see if you can get my clothes. I want to get out of this iodoform factory."

The nurse appeared presently. She wasn't smiling any more.

"Mr. Merrick wants to leave," Mike said. "Is that all right with the Doc?"

The nurse stared at me an instant as though I had just crawled out of the woodwork and then said bitingly, "Dr. Monroe says, 'the sooner the better!'"

IT TOOK a little time for O'Rourke to disengage me from the toils of the law, but eventually he convinced them that I was not bent on taking my own life. We left the hospital shortly after this and walked slowly down the street while O'Rourke kept complimenting me on my latest novel. A little praise goes a long way with the average author and I'm no exception. Soon O'Rourke suggested a delicious breakfast as only Mrs. O'Rourke could cook it in return for my autographing his copy of "Red Angel," one of my particularly atrocious works. That seemed a fair exchange to me so we hailed a passing cab.

Shortly, we drew up before "Maison O'Rourke" which proved to be a rather modest residence a few blocks removed from Police Precinct Station No. 5. The porch light was burning brightly in the half-light of dawn. We had just reached the door when it swung open wide. A large, ruddy, feminine face stared at us unpleasantly. She ignored me and concentrated on my companion.

"What have you got to say for yourself, you broken arm of the law?" she roared. "Your story had better be good. Stayin' out all night without let-

tin' me know whether you're alive or dead! You ought to be ashamed of yourself, Michael Montmorency O'Rourke!"

Officer O'Rourke's huge frame cringed under this verbal impact. His voice was actually soft and timid as he answered.

"Now, baby, don't get mad. Mr. Steven Merrick was in an accident so I stayed with him in the hospital. He's okay now so I invited him to come out and have breakfast with us."

"I suppose you held the President's hand too— Invited him out for breakfast? Is this him?" she queried, her broad face suddenly wreathed itself in a smile. "Come right in, sir. Shame on you, Mike! Makin' him stand out there in the cold. Where's your manners?"

She ushered us into the living room, then went into the kitchen. She called, "You men make yourselves comfortable in there! I'll bring in some hot coffee to warm you up."

The breakfast was delicious and the O'Rourkes were distinctly refreshing. I was in no hurry to leave since I was sure nothing could happen to me while I was there. During the conversation after breakfast, I learned that Mike was to be retired from the force in a week. It occurred to me that he would be a valuable man to have around if these attempts on my life continued. I offered him a job working for me and after some deliberation, he decided to take it. He was to see the Chief of Police and arrange for his retirement to take effect at once. Then he would call me at the Club at six o'clock.

DURING the morning, I arranged for some men to put new windows in my studio and for a woman to give it a thorough cleaning. My den had needed a woman's touch for quite some

time. I spent the rest of the day killing time. I saw a musical and a motion picture, both of which bored me. I walked down along the waterfront. All through the day, my mind was occupied with the same thing, my present predicament. Finally, I had it all thought out. When it all boiled down, it was quite simple. Why was I in danger? Why were these attempts being made on my life? There was no attempt at robbery and certainly I had nothing of value except in my safety deposit box. My first opinion, that it had been a scheme of Travers to convince me that his story was true, didn't hold water. If I hadn't awakened when I did, I would have been dead. It couldn't be Travers because he had freely allowed me the use of the story. After all, he would only have to refuse! It wouldn't be necessary to kill me to prevent it from being published!

Little by little, I was forced to one inescapable conclusion; there was something in the story that someone or something didn't want printed! It couldn't be Travers' life. Other people had written about him! It couldn't be the University, as he called it. That presupposed the existence of his so called "evil ones." This process of elimination was complete. Nothing was left! The only alternative was to assume that the attempts were being made by these so called "powers of evil." Well, there was only one way to settle it for sure and that was a trap. But what kind of a trap!

I spent some time devising and rejecting various plans. By six o'clock, I gravitated back to the Club. Mike was already there waiting for me. His square, beefy figure was now adorned in a blue serge suit of Herculean proportions. He grinned from ear to ear when I came in the door.

"Well, it's all fixed, Mr. Merrick," he

said. "I'm at your service whenever you say."

"That's swell Mike," I replied. "Can you start tonight?"

"Sure!" he said heartily. "I got it all fixed up with the missus. What would you like me to do first?"

"First, I'd like to have you call me Steve instead of Mr. Merrick. Then I thought we'd go to the bar and have a highball and then a steak dinner."

"Glory be!" the Irishman breathed. "And I get paid for doing things like this!"

"Don't worry, Mike," I smiled, "it won't always be like this. There'll be times when you'll really have to work!"

AFTER we finished dinner, we went back to my studio. The workmen had gone and they left the door unlocked. Mike and I searched the place over from one end to the other and found nothing. I told the big Irishman to familiarize himself with the studio while I built a fire in the fireplace.

The studio was cheerfully warm by the time Mike had scrutinized and studied every detail of my habitation with a thoroughness for which policemen are famous. I went over my story of the gas attack again, omitting no details. Then I asked, "Mike how was it done? It was obviously impossible for anyone to get in or out and if they had gotten in and turned on the gas, somebody would have noticed them."

Mike scratched his head. "I was on a case like this once before," he pronounced gravely. "I think if we go down to the basement, I can show you how it was done."

I was frankly surprised, but I followed meekly downstairs, carrying a large flashlight. Mike turned the beam of the flashlight over the basement until

he found what he wanted. Over in one corner, there were two large, black boxes near the ceiling. We walked over.

"One of these is your gas meter, isn't it?" Mike asked.

"Yes," I replied blankly. "Number 2 is mine."

Mike trained the light on the small brass valve at the top.

"See these scratches here, Steve? These valves don't have any handles but you can turn them with a pair of pliers. Whoever did it, got into your place during the day while you were gone. First, he turned the gas off down here and then he opened up the burners on your stove. When he figured you were asleep, he came back and turned on the gas from down here."

I was beginning to have more respect for Mike's intelligence.

We inspected the basement, but found everything as it should be. As we walked back upstairs, I told Mike about the black widow spider. Mike wanted to see the remains of the spider very much. As he put it, "I've never seen one of the little critters!"

O'Rourke stopped me in the hall, a few feet from my door, and stooped over. From the floor he picked up a tiny end of a match.

"What is—?" O'Rourke silenced me with his finger. From inside his coat he pulled out the biggest gun I have ever seen. Quietly, for all his size, he eased up to the door. His big hand slowly turned the knob. Then he quickly threw the door back so hard that it struck the wall with a bang. I snapped on the lights.

"I thought I left the lights on," I muttered.

"You did!" O'Rourke rejoined softly.

We made another search. Like the first, it yielded no results.

"Well, nothing's been taken or moved," I announced.

Mike looked at me doubtfully. "I don't know," he said slowly. "I left that match in the door jam. Somebody's been in here. He must have known we left the room."

I nodded thoughtfully. "He must be watching us from somewhere!"

Then I got the great idea. I moved to the other side of the room so that my back was to the big windows. "Don't answer me, Mike! He must be able to read lips but I think we can trap him."

Mike smiled slightly and faced the windows. "Yeah, I could use a little sleep myself," he said, emphasizing his words.

WE WALKED into the kitchenette. We weren't visible from any window, now.

"What do you think he's trying to pull?" I asked.

"Whatever it is," said the big Irishman, "he's trying to make it look like an accident. He can't very well make it look like we *both* committed suicide!" He paused, thoughtfully. "But who would be trying to kill *you*?"

"I don't know," I confessed, "but I'm reasonably sure that it has something to do with the story I'm writing, although I can't see anything in it that would make anyone want to kill me."

I briefly outlined the events of the past few days and gave Mike a detailed account of the unfinished manuscript. I punched holes in all the theories he could think of and I could see we were getting nowhere fast.

"I know Travers has left town but he could stop me from publishing the story, anyway, without having to kill me."

At this point, Mike's face grew noticeably pale. "I just remembered! I *know* it's 'them' that's trying to get you!"

"Oh Lord! Don't tell me you be-

lieve in that stuff?" I groaned.

"I don't know, but I wouldn't scoff if I were you, Steve! My father lived in the old country. He used to tell me about the 'powers of darkness' and believe me, they're nothing to fool with."

"Have you seen any of 'them'?"

"No. But my father did one night and the next morning his hair was white. He never told me what happened, but it must have been terrible. I was just a small lad and we came to this country right afterward. You can take my father's word for it! He didn't have much schoolin', but he was honest and as smart as they come."

"Well," I said, "whether you're right or wrong, somebody's trying to kill me, and if I want to stay alive we have to find out what he's got up his sleeve!"

One by one we discussed the various ways of making death appear accidental. Finally, I said, "that eliminates about everything but poison, but he couldn't very well make that look like an accident!"

"I don't know," Mike said frowning. "There was a case where a man in a restaurant got hold of some roach powder instead of flour."

We stripped the refrigerator of its contents and examined every item carefully. We smelled and tasted cautiously. Again, we admitted defeat.

"Whatever it is, Mike, we've got to find it, for it'll kill us before morning!"

We continued our search. The bread, the flour, everything. Mike stopped suddenly and stared intently at the row of canned goods on a shelf.

"Look at this one, Steve!" I did. It looked like a perfectly ordinary can of luncheon meat.

"Not the can," Mike said, "look bere at the shelf!"

was a thin line that was dust free. Mike and I looked at each other.

"That can has been moved or another one has been put in its place," he muttered.

Gingerly, we lifted the innocent looking can. I turned it over in my hand. It seemed perfectly all right. Mike's finger pointed at the center of the bottom.

"Look at this!" he exclaimed.

The tiny drop of solder used to seal the can was shiny and new looking.

"I guess we've found it!" I whispered excitedly.

"The meat inside has either been poisoned or the can has been filled with a gas, I'll bet!" Mike stated.

We decided to open it. At Mike's instructions, I held a match close to the key he was turning. There was no sound.

"These cans are supposed to be vacuum sealed," he said intently. "This one certainly ain't!"

The meat inside looked all right, but there was just a faint odor.

"I'm sure this is it!" I exulted. "Now, I'll tell you what we'll do!"

Rapidly, I outlined my plan. A few moments later, we were seated at my desk. I placed a pot of freshly brewed coffee and a plate of bread in front of me. Between these, conspicuously, I displayed a plate containing several slices of the fatal luncheon meat. I poured the coffee and then, with deliberate care, I put two slices of bread on the desk. I laid a slice of meat on each one and folded the bread over to make a sandwich. Walking around to the other side of the desk, I handed one of the sandwiches to Mike. We drew up chairs before the fire and sat there contentedly drinking our coffee and munching our sandwiches.

Suddenly, Mike clutched his midriff, straightened partly out of his chair and

THERE was a thin film of dust on the shelf but in front of the can

toppled over on the floor, his face a mask of agony. I got up to help him, swaying unsteadily. I doubled over and fell to the floor.

IN A very few minutes, the door sighed softly open. I was facing the other way so couldn't see who had entered. I lay rigid, hardly breathing until I heard Mike's heavy authoritative voice.

"All right, Mr. Smart Guy! Reach!!"

I turned my head. The man who had 'reached' and was still reaching was Cyril Blakestone, III. His normally bland expression was disturbed only by a slight wrinkle of his brow.

"I say, Stevie, old boy!" he mouthed. "Is this a bit of a trick that you're playing on jolly old Cyril?"

I felt discouraged, washed out. I had counted pretty much on the plan working, only to have this oaf walk in. I turned away as Cyril lowered his hands. I didn't trust myself to speak to him.

Then, I nearly jumped out of my skin. There was a shattering roar in my ear. It was followed almost immediately by cursing with a fluency that even I wouldn't have believed possible. O'Rourke still had his gun trained on Cyril. Cyril was holding one hand, massaging it.

"Don't try anything else, if you want to go on living!" O'Rourke warned.

About six feet to Cyril's right lay a blue steel automatic. There was a faint whisp of smoke curling out of the end of Mike's gun. I gingerly walked over and picked up the automatic, taking care to keep out of the line of fire. Across the automatic's gleaming barrel was a spattered streak of lead.

"He almost caught me off guard," Mike growled.

I looked at Cyril. His face was no longer bland.

"So, you're the one! I never would have believed it!"

"Now that you know," Cyril smiled weirdly, "what do you intend to do about it?"

"I plan 'to prosecute you for attempted murder!" I said.

"Where's your proof!" he demanded. When I stopped to think it over, I realized I didn't have any proof.

"At least, I can prosecute you for breaking and entering!"

"Oh come off it, Stevie. No court in the world would convict me!" Cyril snapped viciously. "I'd say that I just walked over to pay you a friendly call and found the door open. When I pushed it open further someone poked a gun in my ribs so I reached for my own gun. I'd get cautioned about carrying a weapon without a permit, maybe fined and that's all, and you know it!"

He suddenly made a lunge for the door but Mike got there first. There was a sharp thud as he cracked Cyril across the temple with his gun barrel.

"I warned you you'd get hurt, sonny boy, if you tried any funny business!" Mike said in a tone of mock regret.

BLAKESTONE got up from his knees. His hand was pressing his head and there was a trickle of blood running down his cheek. His breath was hissing through his teeth as he spoke.

"For that, I'll kill you both! I swear if it's the last thing I ever do, I'll *kill* you!"

I ignored him and faced Mike. "What in the blazes are we going to do with him, Mike?"

Mike shrugged his shoulders expressively.

"I'll tell you what you're going to do with me," Blakestone supplied. "You're going to let me go, right now! Other-

wise I'll make things so hot for you, you'll wish you'd never been born!"

"Not on your tintype!" Mike gritted. "You're staying right here until we figure out what to do with you!"

I studied Cyril for a while with a puzzled frown.

"Just what is your game?"

His voice was filled with scorn. "Oh you fool! Haven't you figured that out yet? I wanted to keep you from having that story published!"

"You mean, what Travers told me was the *truth*?" I asked incredulously.

"If other human beings are as dense as you are," he snarled, "it's no wonder they haven't found out about us!"

"What are you? Mike asked. He was just a little white around the gills. "A demon or something?"

"I have been called that." He leered malignantly at Mike. "Humans generally call us 'dero'."

"Steve!" Mike said frantically. "You got to kill him! If you don't, he'll get us sure! HE AIN'T HUMAN!!"

"Ah ha! Bright boy!" Blakestone laughed harshly. "When I'm dead, you're going to have a body on your hands! They hang people for that, you know."

We stared at him silently.

"Suppose we let you go," Mike asked hesitantly. "Will you leave us alone?"

This seemed to amuse him. Never in all my life have I ever seen such a change in a person's character. His face was distorted to such an extent that it was the perfect example of the

expression of terrible depravity. He sneered at us.

"Oh, I'd leave you alone for awhile. Then, one day, when you weren't looking—" He drew his finger across his throat making a horrible "c-k-k-k-k" sound with his mouth. Mike's already pale face whitened still further.

"Suppose I destroy the story," I suggested. "Would you call the whole thing off?"

"What difference does it make what you do now? You are still a danger to me and my kind. Besides, do you think I'm going to let anyone push me around the way you two have done and get away with it?" He laughed malevolently.

"There must be someone who knows how to take care of 'things' like you!" I said.

"Travers?" Cyril asked. "Sorry Steve. He's far away by now."

"Well, I'll think of something." I replied hopefully.

The beast didn't know how persevering I could be, but he does now. He's sitting on the edge of my bed, glaring at me. He would rather kill me than anything else in the world, I know that. During the two weeks that have gone by, I've tried to find Travers, of course, but he's gone as completely as if the earth had swallowed him. It's certain we can't keep Cyril a captive much longer. The strain is beginning to tell. So please, PLEASE! ANYBODY!

WHAT DO YOU DO WITH A DEMON?

DON'T MISS THE STORY OF THE YEAR
THE GREEN MAN
Next Month's Issue—On Sale August 9

WHAT MAN

THE "GHYT" MOTOR

(Gas HYdraulic Turbine)

By W. C. HEFFERLIN

DO YOU remember away back when one and two cylinder "side-winding" cars (automobiles if you please!) were common and the four cylinder jobs were quite the latest, with the left hand drive replacing the European right hand drive?

Well, our first was a two cylinder right hand drive Reo, chain-driven, with plenty of brass on windshield and lamps. How the four cylinder cars would streak along madly at 20 and 25 miles an hour, leaving a trail of dust which the two cylinder drivers had to eat. That started it!

Speed, speed, and more SPEED! Study, research, analyze, design, throw out, and begin again.

What power movement was basically sound and of the highest efficiency in transmission, with the least oil requirement? A hydraulic turbine, of which there are two general types: Low pressure and lots of liquid, or high pressure and minimum amount of liquid required. Steam and hot air and gas turbine designs were discarded due to the obvious fact that there is too much slippage and too many turbine wheels required to absorb the slippage losses.

100 pounds pressure of air or 100 pounds pressure of water at a nozzle opening with your hand held in front of the nozzle, shows a parallel example of applied force and the slippage factors.

Both the steam and gas turbine develops its power at high rotative speeds and requires a fine degree of accuracy and large amount of costly machining and balancing. All strictly out for large scale assembly line runs. And look at the costly metal alloys used!

Now here is the head-ache of all times. The explosion temperature in a motor ranges around 3000 degrees Fahrenheit, which is the melting point of iron. And a hydraulic (liquid) that would not turn to vapor from this heat is not known of to date. Mercury would be too heavy in weight.

After a long hunt a simple flame block was decided on. Believe it or not, metal screen, the same as used in a tea strainer, in separated layers does a nice job of stopping the flame. So part of a major head-ache is thus taken care of. Now, the firing chambers, called cylinders, are constructed oblong in shape of steel, 2 inches on the side, 6 inches in width, and 12 inches deep. This gives



CAN IMAGINE...

If you will imagine it, perhaps someone will be inspired to do it. This department is for your ideas, no matter how "wild" they may seem; who knows, they may be the spur to some man's thinking and thereby change our destiny! Tell us your thoughts.

us 144 cubic inches displacement per cylinder and these cylinders are stacked on their ends with space for cooling between cylinders. These cylinders are welded to top and bottom plates and cooling jackets on the sides. The only machining required is on the top and bottom surfaces of the top and bottom plates. This makes up the cylinder block or middle section of the motor.

The turbine unit itself consists of:—Turbine wheel of a modified "De Laval" type (high head pressure), properly enclosed, and the nozzle and throat section. The nozzle openings are opposite each other and throats parallel to each other, two to one turbine in opposite side walls of each turbine housing, so designed and placed in order to allow the liquid or hydraulic movement to pass back and forth by way of the nozzle openings against the upper surface of the turbine blades, and up and down in the nozzle throats.

In other words, when the cylinder block is in place above the turbine section the nozzle throats become an extension of the cylinders and two cylinders straddle each turbine wheel section. Then any hydraulic movement from one cylinder to the other would be as a "V" with a pair of cylinders to each turbine wheel. By using this construction and filling the turbine units and into the cylinders above them with a hydraulic fluid to within six inches of the cylinder tops, we have a complete hydraulic seal below the explosion area of each cylinder, and no pistons, connecting rods, and no metal to metal surface for friction loss. The turbine wheel shaft revolves on roller or ball bearings submerged at all times in the hydraulic fluid.

To avoid slopping and splashing of hydraulic liquid in the cylinders, honey-comb inserts with the previously mentioned screen layer between each cell layer, are placed in the cylinders piled in alternating layers one on top of the other, for



about 10 inches to 11 inches of the cylinder depth.

Upon the top surface of the cylinder block is placed the motor head block containing two poppet valves, one fuel injection nozzle, and one spark plug per cylinder. Above the intake valves is one cam shaft, and above the exhaust valves is the second cam shaft. These open and close the valves in sequence of order. These cam shafts are electric motor driven, and the ignition timer is run by the exhaust cam shaft. The electric motor is of variable speed type, and helps to start the motor.

Also as a part of the cylinder head unit and above the cam mechanism is mounted what today is called a "Supercharger," driven by the exhaust pressure on one side and compressing air into the suction manifold from the other side. Belted, geared or chain driven from this "Supercharger" is a combination electric motor and generator to both start compressing the air and after the turbine has started to run, to recharge the batteries.

FFUEL is sucked from the fuel line by individual diaphragm pumps inserted into the walls of each cylinder. These pumps have two diaphragms opposite each other with a space between to allow for a metal bar to slide back and forth. In slots of this bar at proper intervals are wedge-shaped metal inserts free to move in opposite directions from the travel of the sliding bar. One diaphragm surface is exposed to the internal cylinder pres-

tures, the opposite diaphragm is the fuel pump with ball check valves. The metal sliding bar with the wedge inserts is moved by the fuel lever so as to position the wedge inserts between the diaphragm center buttons to allow for any required movement of the fuel diaphragm button. By this means is the fuel metered into the cylinders.

The diaphragm fuel pump of one cylinder furnishes fuel injection into the opposite cylinder. (High pressure cylinder furnishes power impulse for fuel injection into low pressure cylinder.)

The three sections of the turbine motor are sealed to each other by soft metal gaskets and leakage is prevented by a "V" shaped bead on one planed surface and a "V" shaped channel in the opposite planed surface. Slotted studs are used and wedge shaped keys inserted into the slots tighten the assemblies together.

In the turbine or bottom section unit, the turbine case may be removed to allow for blade inspection or turbine wheel removal. The turbine wheel drive shaft is in multiple sections which butt end to end and are splined into the center hub of the turbine wheel, the bearings being between the splined ends. Endwise movement of shaft allows for the dropping out of the turbine wheel required.

Returning our attention to the inside of the firing cylinders and the screens, etc. When the main switch is turned on and the valves open and close, compressed air is forced into the cylinders and by moving the fuel lever several times, fuel is injected into the vicinity of the spark plug. Ignition takes place forcing a downward movement of the hydraulic liquid in that cylinder, exposing the screen layers. These absorb the flame and heat. After the exhaust valve has opened and before it has closed, the intake valve opens and the compressed air scavenges the cylinder of foul gas and receives the first heat from the screens. Upon the closing of the intake valve, the opposite cylinder fires, forcing the hydraulic liquid back into the first cylinder and compressing the heated air. The fuel injected into this mass of hot compressed air is ignited again by the spark plug. Such a method has the advantage of drying the gas and cracking it at the same time.

Inasmuch as this turbine motor operates on pressure developed and does not depend upon the speed (R. P. M.) of the turbine drive, the machining requirements on the turbine wheels and their housing is done away with to some extent. The turbine blades may be stamped by presses and a hollow turbine wheel may be used, with a slotted rim of the required width pressed on and hub pressed into center. Only on the turbine shaft and the cylinder head and its equipment, plus the joint sealing surfaces is machining extensive.

The exhaust pressure is high which drives the Supercharger at full speed, and the exhaust impact into the open air is broken up by the blades of the Supercharger. This also can be used as a form of "jet drive."

In the turbine motor, if six cylinders are used, the power impulse transmitted along the shaft will

overlap, producing a drive with little or no vibration, and is as smooth as an electric motor. Such a motor used to drive a propeller either in water or in air, would reduce "prop slippage." On railroads, drive wheel slippage. It can be used to drive any form of transportation, and the only oiling required is in the cylinder head mechanism.

Any type of liquid fuel, from alcohol to furnace oil and distillate, may be burned in this motor at full efficiency, by retarding or advancing the timer, which in turn raises or lowers the compression pressures to the fuel requirements. For example, a 300 pound firing pressure delivered against 20 blades per turbine at a 4-inch radius, and 3 turbine wheels in a 6-cylinder motor, translates itself into plenty of horse-power thrust at the driving end of the motor.

* * *

BURN WATER FOR FUEL

By W. C. HEFFERLIN

ALL of us are familiar with brooks, rivers, lakes, seas, etc. The world is full of an inexhaustible supply of water, and many people even drink it and enjoy life. But to burn it! Well, some jokes even mention that, too.

Yes, for many a long stretch of years, even centuries, too far back to find the beginning, water has been one of our important prime movers.

Inventions and processes beyond count have been and many still are, used much in the original style, from before the first water wheel to tide motors and steam engines of all types. Steam turbines today generate electrical power to drive huge sea-going ships. The latest locomotive is used on railroad trains is driven by a steam turbine!

Water is used to put out fires and the fire department is quite familiar to most of us. It is also used to help keep us cool. But something that will stop flame and heat will also burn? No, that's not double talk; it's true. Any high school student taking Physics knows the possibilities. How?

Let's examine water, what it is by nature. Its chemical symbol is H_2O , which means that two parts of hydrogen and one part of oxygen (that stuff we breathe) are in combination.

Hydrogen is a gas very explosive and has been used to lift balloons and Zeppelins, and in the presence of oxygen it will burn violently.

There have been developed down through the years many methods of extracting either or both gases from water, etc. But one of the simplest, although the slowest, method is known to students as "electrolysis of Water." This is done by running about 12 volts of direct current electricity between platinum plates in a vessel of water containing a trace of acid in solution. Hydrogen will bubble off one plate and oxygen will bubble off the opposite plate.

We refer you to the Hofman's apparatus familiar to all Physics students, and the following laws of electrolysis that were established by Faraday a century ago.

"I. That mass of an electrolyte decomposed by an electric current is proportional to the quantity of electricity conveyed through it."

"II. When the same quantity of electricity is conveyed through different electrolytes, the masses of the different ions set free at the electrodes are proportional to their chemical equivalents."

Quotes are from Page 329 and Page 425, Carhart and Chute Physics, Copyright 1912.

Michael Faraday was born in 1791 and died in 1867.

This process had never been speeded up until the fall of 1921, when, following a hunch and with some reasoning attached, a new and different method was evolved and first tests made with as crude and simple a set-up as was possible.

If it worked under difficult and crude methods, then it stood to reason that the perfected and decently designed methods would be successful.

A glass vessel was used (commonly called in a laboratory) a thistle-stemmed conical flask, one hunsen burner and a H. F. (high frequency) machine, one rubber two-holed flask plug and one glass valve inserted in the rubber plug, two wires and some steel wool, also some water.

NOW we were ready for the simple test. The flask bowl was half filled with water and held by a bench-stand and clamp at a 45 degree angle. One wire from one pole of the high frequency machine was slid down through the thistle neck into the regular neck of the flask; the other wire from the opposite pole of the machine was inserted into the regular flask neck through the rubber plug at the neck's upper end.

The hunsen burner was lighted and placed under the bowl of the flask to boil the water. When the steam was showing inside the flask the H. F. machine was turned on, causing an electrical spark to jump between the wire ends inside the flask and through the steam.

A red color showed at one end of the discharge and a blue color at the other end. This indicated hydrogen and oxygen.

The glass valve in the rubber plug was opened, but no flame could be lighted from the gas rushing through the valve.

Next, a small bunch of steel wool was placed between the inside wire ends and separated from them. Then the H. F. current was turned on again. The first discharge color area remained the same; but the second discharge color area in the flask showed very brilliant red and blue colors. Still, gas coming through the glass valve could not be ignited.

So then a second steel wool bunch was inserted into the flask neck and separated from the wire and the other steel wool. Again the H. F. current was applied and at first and second discharge areas the past colors were noted in their respective

order. But at the third discharge area there was only one color—yellowish white.

IT WAS BURNING!

Still we could not ignite a flame from out of the valve. So the valve was closed and the heat removed, but the H. F. current remained on and the third area watched. The steam content grew less as the flask cooled down, when suddenly—**BANG!!**

The neck at the area of the third discharge was gone, rubber plug and glass valve. (We never did find even the rubber plug. Maybe the janitor did.)

The rest of the neck and flask were unharmed. But a razor blade could not have cut wax any smoother than where the third area started. That proved that instantaneous electrolysis of water was a fact and our hunch was right. Plenty of hydrogen and oxygen were available in a hurry!

When hydrogen is burned in the presence of oxygen it produces a very high temperature flame and there are no fumes. They just combine and form water again!

The possible uses can be expanded far and wide, from heating the furnace to cooling the refrigerator; from running the auto to driving an air ship.

A small and compact unit could be made and installed in a submarine. One emergency use inside a submarine would be to furnish oxygen to the air and hydrogen to the buoyancy tanks to raise it. And any water—salt, fresh, dirty—will do for a while in emergencies.

* * *

CONCEPT COLLECTORS WANTED

By ROGER P. GRAHAM

THE concept is the unit of thinking. Whether it is associated with a word, an image, an odor, or a feeling, it acts as a unit in a thought process.

The way concepts are put together to form more complex concepts is the main business of the thinking mind. Since no mental work can be done without concepts to work on, it follows that thinking is limited by the mind's concept vocabulary.

Up to the present day no systematic method of collecting and classifying concepts has been inaugurated, yet the use of concepts is the main business of all civilized people. One concept can win an election for one man, while the lack of it can lose him the election. One concept discovered by an inventor can be the open sesame to a new machine which brings him a fortune.

A single, engrossing concept can rule a man's life. Lack of a single concept can, and often has, lost a man his life when all the materials to save it were at hand.

Naturalists spend their lifetime collecting and classifying bugs. A man becomes famous when he

discovers a new bug. Astronomers spend their lives identifying new stars, and the one who discovers a new one goes down in history.

Joe Doaks discovers a new beetle. No one asks, "What good is it?" It IS, and that is all that matters. Joe Doaks takes his place among the immortals.

Jim Doaks, his brother, discovers a new concept. At once he is asked, "What good is it?" and unless he has a very good answer all ready he is branded a quack. Or, if he is a writer, he incorporates his newly discovered concept into a story and gets a few dollars for it.

Joe Bush is an advertising man. He is in competition with several other advertising men. His mind is a little more imaginative than his competitors and he occasionally gets a new idea that is good. In other words, the processes of his mind are such that he is always putting concepts together in every combination he can think of and applying his advertising sense of values on each combination to appraise its worth in his business. He may put several dozen concepts together in a single day, none of which he can use. He probably does this subconsciously and appraises them subconsciously. None of them are any good. Yet, since this is a subconscious habit of his mind, every so often he gets something he can use. He gets rich eventually.

If concepts are put together according to the rules of logic, the process is called reasoning. If they are put together any old way it is called imagination. If they are put together for some purpose, or to work as a functional unit such as an auto or a watch or a fountain pen it is called inventing. If they are put together in the form of a story or a picture or a poem or a lyric or a statue, it is called art.

If observations are made of things that go on, and three things going on produce a new concept, it is called inductive logic, inspiration, or hallucination, depending on the value and field of application that the new concept fits into.

Concepts are all important to the present civilization, and their future worth cannot be estimated. Joe Doaks, the hack writer, discovers a new concept and writes a story which includes this concept. In ten years he has forgotten the concept and every copy of the magazine it appeared in has been destroyed. A hundred years from now civilization is faced with a serious problem.

The serious problem reduces to the task of re-discovering Joe Doaks' concept. If they re-discover it civilization goes on. If they don't, civilization drops back a thousand years and half the population of the earth suffers.

It seems that the human race has a serious responsibility to posterity which it hasn't even recognized. That is the systematic collection, indexing, and cross indexing of every known concept.

It doesn't matter whether the concept LOOKS good or not, but only that it IS, like a new kind of beetle. We aren't in any position to judge for

all the future the worth of any single concept anyway. It is quite possible that the future members of our race would judge as the greatest man of this period, not some scientist or political leader or industrialist, but some obscure writer for the pulp fiction magazine, IF the concepts he discovered were preserved for these future men.

What would be the advantage of a systematic classification of all concepts? It is done now, partially, in all branches of knowledge. The most exhaustive pursuit of this classification is in mathematics, where utility takes second place and just being takes first place.

The spread of developed concepts and techniques from one specialized branch of knowledge into all others is practically nil. A botanist doesn't have to learn anything about abstract logic except what he picks up in the gutters. He is required to learn how to add a column of figures in grade school, but after he becomes a doctor in his chosen field he can forget that if he wants to.

Even in a single field of knowledge mastery of the elementary concepts and processes of thinking does not have full spread.

We have all known mathematicians who could solve complicated problems in their own special field, yet be at a loss in some elementary branch of mathematics.

We don't usually think of our knowledge as consisting entirely of concepts. We use what we know and let it go at that. Yet think how many thousands of man hours each day are spent in enjoyment of card games. The general concept of a game—a few materials, a few rules designed to employ a certain amount of luck or chance and a certain amount of skill, nicely balanced—is one of the root concepts of our everyday living. Children invent games, grownups learn games that have evolved to their present forms from clumsy beginnings before the dawn of written history.

Consider the concept of division of an enemy's forces into small groups, so that a force of five thousand men can defeat a force of fifty thousand in battle by whipping a couple of thousand at a time. Napoleon used this concept. Hitler used it in the initial stages of the present war.

No mind, whether it be that of a dog or a man, can think without concepts. A man has more concepts than his dog. He has more ways of putting them together. Yet he DOESN'T put them together systematically, exhausting every combination. He doesn't even make any effort to insure the preservation of his concepts for his children's children, but judges for them which concepts are worth saving.

Systematic classification of all concepts, and indexing and cross-indexing of them would make them instantly available to every thinker, so that he would not have to wade through thousands of pages of writings to get them. Perhaps just in the routine compilation of concept indices remarkable discoveries overlooked up to now could be made. The future value of such a work could not be overestimated!

FAMINE IN THE LAND

By JOHN McCABE MOORE

SOME years ago it was found that denying manganese to chickens completely inhibits their ability to manufacture vitamin C and certain of the vitamin B compounds. In connection with the relationship of Vitamin C to manganese, it is also interesting to note that the deficiency of manganese in the human being has virtually the same repercussions as the deficiency of Vitamin C.

Some readers will wonder whether manganese was ever commonly prescribed for symptoms similar to those which attend Vitamin C deficiency. In going back over the records they will find that this is the case, manganese being at one time (and for a long time) a favorite component of certain tonic mineral preparations.

The interrelation of manganese, the Vitamin B complex, and certain other vitamins, is almost as plain as the evident relation of Vitamin C and manganese, although somewhat more complicated.

Reverting to the Vitamin C-manganese parallel, it is further notable that both substances are catalytic in their properties within the body. In the inorganic chemistry of manganese, the same great importance of its compounds as catalytic agents appears, particularly in connection with oxidation-reduction processes, and the liberation of oxygen and chlorine from chemical combinations.*

(Most interesting of all the functions of manganese is its action in the coordination of the thinking processes.)

From such evidence as this it is patent that deficiencies of vitamin substances in our diet may be but the shadow of an awful shortage of more basic substances—the minerals.

A number of fine-thinking men have been pointing to soil abuse as one of the great mistakes of civilization, for a number of reasons and for a number of years.

To anyone who has seen the gnawed and gutted hill-sides of whole sections of Alabama, or similar areas throughout the nation, the fact that the very substance of man's bone-marrow and liver is being torn out in great gouts and hurled seaward is very meaningful. With the top-soil lost by agricultural heedlessness goes the humus built up by ages upon ages of patient grasses and herbs. The clay and other subsoils can not support the healthy verdant life found on normal soil because the all-important quality of porosity is gone, the precious organic compounds have disappeared, and the available mineral content is reduced to a starvation concentration which will properly support only the hardiest of plants, most of which are useless to the present world economy.

The failure to replace necessary minerals re-

moved from the soil by intensive farming is well-illustrated by the near-tragedy of the cornlands of Indiana, when for lack of available calcium the plants attempted to use iron instead. Crops dwindled almost to nothing, the stalks became spindly and burned out easily. It was a fine illustration of the adaptability of the plant and a tremendous indictment of the thoughtlessness of man.

The improper replacement of necessary elements is another case in point. In direct combination with organic materials, it has been shown, the minerals are much more available to the plant. Where the continuous replacement of minerals as inorganic salts is practiced, soil balance is so disturbed that plants become weak and unproductive, their fruits lacking flavor and vitamin content. Sometimes the earthworm leaves such soil entirely. The employment of scientifically balanced fertilizers is indispensable.

It has always been supposed that the addition of fertilizer (whether chemical, natural, or scientifically balanced in regard to important elements) to the soil, will automatically compensate for trace elements necessary to life. This is far from the truth, as the analysis of any mixture of minerals (whether from soil itself or other source) will show. It is well-known that many soils are woefully deficient in iodine.

Years ago, a great (if unknown) man invented a cobalt fertilizer. The awesome foresight represented by that act is the sort of fundamentality which will spell the difference between the survival or the breakdown of present civilization. Much deeper studies of soil deficiencies of trace elements in every section of the world must be worked out. Perhaps government, through agencies already established, will one day take a derelictory interest in such a program. Consider copper, phosphorous, zinc and nickel—even the balance of arsenic compounds in the soil may directly affect both plant and animal nutrition.

It is well-established that many of the diseases of domesticated plants are caused by poor soil condition. Plants already diseased have thrown off their troubles when transplanted to superior soil. Plants of the same generation of the same variety may be planted side by side in poor soil and in superior soil, and the weaknesses and diseases which afflict the one may be altogether non-transferable to the other.

When man subdued the land in the four corners of the earth, the balance and productivity of the soil were far from being perfect, but it is indubitable that the best he has so far done for the soil has not constituted the actual betterment of the land in any extensive area under cultivation. Is his general food supply likely to improve in quality or quantity at the present rate?

Civilization until now has artificially extended the life span, but simultaneously it has reduced the effectiveness and meaning of living. Must one be content to live less intently for a little longer? Shall every succeeding generation be "weaker and wiser"?—John McCabe Moore.

* The author is not insinuating by any of these facts that the importance of basic organic substance should be either disregarded or deprecated.

ORIGIN OF A DIAMOND

By ROGER P. GRAHAM

WHERE do diamonds come from? The general assumption has been that diamonds are formed under terrific pressure deep under the earth's surface, and are brought to the surface during geological upheavals. Yet, can this be so?

The melting point of carbon is 3500 degrees centigrade. When you consider that the temperature of molten lava is at most 2000 degrees centigrade, and that carbon is known to dissolve in most molten, high temperature substances; a possible set of conditions under the earth's surface, in which an appreciable amount of pure carbon might collect and form a diamond, seems quite impossible.

There is one branch of experimental study which has never been explored; namely, that of atomic dust in an otherwise perfect vacuum. The three popularly known states of matter are the solid, liquid, and gas. There is still another state, however; that of atomic dust, closely approached by fine ashes from a coal stove.

An atomic dust would consist of individual atoms of any element, mechanically separated, at a temperature where the substance would ordinarily be a solid.

Out in space, away from the attraction of large gravitational masses, such atomic dust would have properties similar to those of gases in modern electronic tubes. They would be extremely tenuous "atmospheres" of substances which on earth are solid substances. What properties would these "gases" have? Only experiment in the future can show these properties, yet we have several hints as to what happens in the behavior of salts in solution in water.

It is well known that many salts which are otherwise inseparable can be separated by crystallization out of a saturated solution, like molecules coming together in the form of pure crystals. If the saturated solution is kept undisturbed and allowed to lose its water very slowly by evaporation, the pure crystals grow quite large.

Out in interstellar space the extremely tenuous "gas" composed of atoms of every kind of element, and molecules of thousands of different substances may possibly come together to form chemically pure crystalline forms, which, over periods of thousands of centuries, become quite large.

Let us suppose carbon does this out in space. We have a large chemically pure carbon crystal, transparent, a pure diamond weighing several tons. It has taken millions of years to form.

This diamond asteroid, drifting through space, plunges into the earth's atmosphere at a free fall velocity of sixteen miles a second. The friction of the atmosphere immediately raises its tempera-

ture and creates tremendous internal stresses in the brittle diamond. It strikes the ground and buries itself, throwing up a small crater of dirt and stone, but the shock of the sudden stop, coupled with the stresses set up by its hot surface, cause it to explode into thousands of small pieces.

Having already sunk many yards under the earth's surface, the fragments cannot go very far, but shoot out in all directions for at least a few dozen yards.

Here, after a few centuries, we have the modern diamond mine, complete in every detail.

But why stop with diamonds? There are many substances which appear in large deposits in nature which theoretically should not do so. On the theory that the earth was once molten or gaseous, and eventually cooled, how can we account for large deposits of single elements in isolated places?

In one place will be found a rich copper deposit, and a few miles away in ANY direction there will not be a single atom of copper. How account for the Helium wells in the United States? Helium in inert, and at ordinary temperatures is a gas. Yet under the ground there are large natural chambers containing Helium. If we assert that the Helium collected due to large deposits of radioactive substances, then it would follow that at each pocket of Helium there must be tremendously rich deposits of Uranium, Radium, etc. . . . Yet this is not so.

If, out in interstellar space, a large crystal of pure Helium formed, weighing many tons, and it eventually drifted into our solar system and plunged to the earth, there would still be several tons of the crystal left by the time it reached the surface and buried itself. Underneath, the surface as it changed into gas it would press outward with a pressure of many tons, either forcing itself back to the surface to combine with the atmosphere, or sealing the cracks in its subterranean chamber and remaining there up to the present day.

The asteroidal theory of the origin of large concentrations of elements in single spots will probably prove to be the correct one, in time. Today we can only speculate, and map out lines of study for future scientists to follow.

Some of the properties of atomic dust can be determined in the laboratory in large tubes. Some can only be determined when man can experiment in places free from gravity, for a crystal of some heavy substance such as carbon would fall to the bottom of a large chamber in a laboratory before it had become large enough to see.

But the results of crystallization in space can be known when space ships leave the earth on exploring trips, for then the numerous asteroids that inhabit the interplanetary spaces of our own sys-

tem can be contacted and analyzed.

Some of them without doubt will be just rock—broken fragments of planets that have collided and strewn their pieces in space. But many of them will be large, chemically pure crystals of substances. It may be that some day there will be a fifty-ton diamond on exhibition in the Smithso-

nian Institute, brought from the asteroid belt by some space prospector.

It is interesting to note that many of the known falling stars have proven to be almost chemically pure in structure and exhibit crystalline lines in their structure. Polished crosscuts of many of these are on exhibition in the Chicago Museum.

★ EARTH'S MAGNETICS ★

By JOHN McCABE MOORE

THE theory has long been held that the earth's core is a solid, or at least semi-solid, mass of nickel-iron, which is a mixture of two powerfully magnetic elements. (Nickel, Iron and Cobalt are normally ferro-magnetic, as is Gadolinium below 16 degrees C., which is its Curie point.)

Science has never made a guess at how the earth became a magnet, nor has it ever attempted to explain what magnetism is, except in terms of "attraction" and "repulsion," which in themselves are general and abstract words having neither focus nor singularity.

The writer has correlated the number and intensities of principal lines of emission of each element with its value of magnetic susceptibility where the same has been established. The result was that for those elements emitting and absorbing the most quanta (having the more lines in their spectra) of the greatest intensity, magnetic susceptibility is the highest. The range between 4000 and 3000 A.U. was employed in the correlation. In other words, those types of atoms highly capable of giving off and absorbing many "wavelengths" tend to give off and absorb magnetism most easily. The only significant exception coming to mind at the moment is the metal copper, which has many lines of considerable intensity but is very slightly dia-magnetic. (Sometimes referred to as negatively magnetic.)

As the Compton effect, et al., have demonstrated, the atom is a transmuter of energy. This fact is also shown by the changing of concentrated short "waves" such as radio "waves" or heat "waves" into visible light, in the progression toward incandescence, when such "waves" are highly concentrated in matter. In other words when the concentration of a given type of energy within a body of matter is low, there is a tendency for that energy to be broken up into simpler forms (Compton effect, etc.) but when the concentration of energy within a body of matter is increased (beyond a certain point definite for any given pure substance) considerably, the energy is emitted in a more complex aggregate of energy (quantum, "wavelength"). Thus radio waves may heat a piece of iron to red, white, and blue-white successively, merely by increasing the concentration of energy it contains. (Pardon the long-winded

abstractions, but they are necessary.)

This variety of the transmutation of energy is going on within the nickel-iron core of the earth. The quanta of gravitation (their concentration is reduced between bodies by the transmutation process in the interior of each, thus setting up an inequality of forces, that tends to bring the bodies together) which continuously flow into the earth from all directions, are partly transmuted into quanta of magnetism, which are characteristic of the spectra of iron and nickel. Then, in accordance with many factors, such as the rotation of the earth, the magnetic fields of the other planets and the sun, and the direction of the lowest pressure of gravitational quanta, these magnetic energies are given off by earth. According to the laws of the spectrum as seen by Kirchhoff (co-worker with Bunsen) an atom most readily absorbs the quanta it emits. Thus where magnetic flow is constant, para-magnetic or ferro-magnetic elements tend to line up hand-to-hand, so to speak, and pass the energy of magnetism along from one to the other. (Diamagnetic elements do not tend to do so. Instead of lying parallel to a ferro-magnetic field, slender, pivoted needles of diamagnetic substances tend to take a position at right angles to the flux of ferro-magnetism, since the quanta are not native to their spectra and they do not readily line up hand-to-hand, by virtue of their reluctance to absorb the energies. When the number and intensity of ferro-magnetic quanta which an atom can readily absorb and emit are greater than those which it does not readily accept, the element classifies as para-magnetic or positively magnetic. When the reverse is true, the element classifies as dia- or negatively magnetic. But it is to be remembered that ferro-magnetism is the only tool which mankind has had the pleasure of employing in the field of magnetism. There is very likely a series of quanta for each element which will produce something like ferro-magnetism in that element. It is worthy of note that carbon, most particularly in the form of graphite, accepts the fewest of these quanta of ferro-magnetism. Ferro-magnetism may thus be definitely unfriendly to life. Experiment indicates this is the case.)

In connection with the effect of the earth's rotation upon its magnetism, the following experi-

ment is submitted. Several unmagnetized steel needles were pressed through small corks and the needles threaded with strong cotton thread, at the ends (knotted together) a rubber band was secured to each. The needles were suspended by the rubber bands being thumb-tacked to a board, and the needle points driven far enough into $1\frac{1}{2}$ " circles of one-inch-thick wood so that the wood could not fall off the needle points. The rubber band motor of each was wound up by twisting the threads between the hands. A strong, permanent horseshoe magnet was then placed in a fixed position, so that the needle hung between the poles. The rubber band was allowed to actuate a rotation of the needle in this position, care being taken not to allow the needle, wood, or cork to strike the magnet (which would produce poles in the

needle by shock). In every case, a few unwindings of the rubber band motor produced polarity of sufficient strength in the needles to last for twenty-four hours (or more, no further tests being made after such time-lapse). The writer believes that the rotation of the earth in the fields of other heavenly bodies thus began earth's magnetism.

Magnetism has been under-studied and over-discussed, yet no force known to the civilized world is of as much import. Even fire must take a back seat for the sovereign alchemist that men convert into heat, light, X-rays, mesotrons* (?) and many other forms of reality.—John McCabe Moore.

* General Electric Co.'s late research.



POWER!



By W. C. HEFFERLIN

CYCLOTRONS—atoms—neutrons—electrons and protons—A space drive? Wild fiction today, cold fact tomorrow, and tomorrow may be closer than you dream of. It's ready! Now!!

But are you? Is mankind ready to accept a dream come true? *Think this one over, "BY YOUR OWN THOUGHTS AND ACTS DO YOU JUSTIFY OR CONDEMN YOURSELF, to the Most High God, to all of mankind, to your brothers, to all of creation, and to yourself!"*

You within yourself know the answer. Face it! Can we as an image of the Highest continue to express our ego in this senseless manner, on and on? Yes, History repeats itself and takes three steps ahead and two backward.

Then you would ask and search for that which is before you and has always been there from the beginning? Yes, POWER unlimited, be it spiritual, mental or material. And all is movement, nothing is static or without motion. The so-called mass of material things is but an illusion. And the space between the building structures of things, commonly called atoms and their subdivisions called neutrons, protons, electrons, etc., is equal to and in proportion to that space which you can see in the sky at night. This must be true, for an exact law of nature stands squarely before us, *One equals One, the Law of Balance, Action and Reaction.* The pattern is there in the sky above you, in Nature around you. Read it! "As one, so is the other!"

Brutal fact? Very much so, if we are timid and cannot face ourselves, much less all of Creation.

The "A"-bomb is but a shadow of things to come. Nuclear Fission? Mere child's play, if we look at the sun! There is Celestial Kinetics to the *Nth* degree. And so-called "space" is full of vibra-

tion or movement of stress and strain and pressure.

So this is too much for you? Not able to take it? WHY! Doesn't your education help you? Originally education meant Wisdom and Understanding. But from the evidence on hand, what is it now?

Is it a parrot-like repetition of some of the past deeds of man and his awkwardness? Or is it a set of building blocks by which we rise to new heights? Don't tell me that "What was good enough for pa is good enough for me." That attitude of mind is not the pattern written in the skies above you, and in Nature around you. Evolution is progressive movement, and "a rolling stone gathers no moss" is true. Man uses one-tenth of his brain, they say. Well, the evidence is certainly apparent.

Light and electricity move at approximately 186,000 miles per second by man-made measurement. Yet we crawl along barely able to get off the ground. Now with our "A"-bomb just with us, we turn our eyes to the moon and beyond, and figure on such power to act as a propulsive drive for space ships, with all of the dangers of radiation unknown.

One must duly wonder why it requires so many tons of steel, iron and copper, plus quite an amount of electricity to produce the stream of protons from a cyclotron. If we examine the method of procedure of design we find that the universal pattern as written in the skies, for example the "spiral nebulae," has been followed for expansion, and not for concentration of power.

The "sling-shot" idea, although it works, wastes far too much energy, and the losses against and through the outside walls are far too much. True, the linear accelerator as it was used was weak in

comparison.

Now if we reverse the "slingshot" idea and concentrate all energies toward a common focal point like a "clock-spring," we still retain the sky pattern of the "spiral nebula" and have a working force at the center, with a minimum amount of metals used and far less electrical consumption in comparison to the output.

The linear accelerator was like firing a bullet through a gun without the rifling ribs (smooth bore). The bullet turns end over end and has little penetration into a mass of wood. But what happens when we use rifling ribs in the gun? The bullet is given a twist (spiral action again) and it will penetrate a mass harder than itself. Even Nature points the way on earth. For example, a fragile straw is driven through a tree by a hurricane wind. You cannot push a drill through a hard mass. But rotate a twist drill even slowly and it will cut its way through easily. The law that applies seems to be quite universal in nature.

HOW to make use of this law? Any High School student taking Physics will know what is meant when it is pointed out to him. It has been written about and in some cases has been demonstrated in the class room. Yes, "building blocks" from the past are used. For our purpose we will refer you to **FIRST PRINCIPLES OF PHYSICS**, by Henry S. Carhart and Horatio N. Chute, Copyright 1912, Chapter XI, Pages 300 and 301, on Electrical Distribution: "The electrical charge of a conductor is confined to its outer surface." "The distribution of the charge is, therefore, affected by the shape of the conductor, the surface density being greater the greater the curvature."

These laws apply relative to the fact that "High Frequency" electricity will leak into the air from either sharp points or sharp edges.

Now, construct of non-magnetic metal a hollow tube and inside this tube insert disks of a non-magnetic metal. These disks are cut or stamped so as to give toward the center a multiple number of semi-lune (fang) shaped projections, somewhat similar to saw teeth. Now with the semi-lunes'

pointed ends arranged in such a manner as to cause any High Frequency current leakage to leave these ends at a bias to the plane of the disk, we have a spiral-pathed discharge area, causing any discharge leakage to assume the parallel example of a rifled bullet from a gun.

Surrounding the hollow tube is wound a secondary coil of wire and upon this coil is wound the primary coil. One end of the secondary coil is connected to the hollow metal tube, the other end is connected to one end of the primary coil. Into the primary coil is fed an alternating current of the required cycles per second.

The resulting spiral discharge in the tube is in the center of the strongest magnetic flux field, and under a compression field of many types and kinds. Its appearance from the discharge (outlet) end of the apparatus is bluish in color, and it is a spiral beam of concentrated energy.

Result? Well, we now have the basis upon which to build a defensive weapon for our protection, if needed. Or the means of a "space Drive" for space ships. Or a tool for the expansion of our knowledge of science.

From here on it is your choice. The Future is in your hands. And the power and speed of lightning is at YOUR HAND!!

POWER! Blasting material destruction! Or "building blocks" for the expansion of all mankind!

"BY YOUR OWN THOUGHTS AND ACTS DO YOU JUSTIFY OR CONDEMN YOURSELF!"

Rocket or "A"-bombs detected by Radar may be blasted with the speed of lightning from the skies by this tool, called by us "Number Three."

From this tool emerges far more than just a color. And if we should pass any element into the opposite end of the center tube, what then? **ATOMIC DISINTEGRATION!!**

The Law of Action and Reaction (recoil) applies for a space drive. We have known of this since 1926. We, as custodians, give this to you.

It is yours, now. What are you going to do with it? Build or destroy? God help you!!

THE END

★ CREATING CANCER ★

By G. A. POLLARD, M.D.

IT IS erroneous to say cancer is a "wild cell." Every cancer is a new growth, made up of living cells that are destroyed after creation, when we have had an injury that changes the pattern of elements.

The mucous membrane is excited, decomposition takes place and inflammation is created. The white cells swarm to this section, the "police" of the system try to destroy the mucous and the poison seeps into the lymph and destroys the

minerals and chemicals changing the pattern of the elements, the pabulum of the cells.

One thing I learned in school was that when we had an injury, "nature," in an endeavor to heal sent up new cells to the stricken place.

That is one of the secrets of growth. The elements are activators and if oxygen is missing, the nitrogen is over-active from the heat.

Oxygenize the growth and cancer will be arrested. Oxygen is evidently the balance wheel

that corrects too rapid a growth.

Bilroth was right when he said, "without previous chronic irritation, cancer cannot exist."

First the irritation or injury, then the system sending up new cells to the injured parts, the mucous membrane becoming over-active, the "police" of the blood trying to destroy this "mess" and the creating of inflammation, destruction of the tissues and, "cancer."

Liebig said, "that whereas nitrogenous substances are tissue food, both as a material for building up and as a material for its function, so it would seem that heat, in destroying nitrogen destroys the tissue source of food."

Heat activates nitrogen, but too much, like inflammation, destroys it. One section of the system is creating new cells while the other section, "the cancerous" is destroying them.

The elements really never die, they become inert and change pattern at times and we say they die.

The minerals and chemicals die or are destroyed by heat and moisture. The elements, minerals and chemicals are carried by the lymph. That is how our bodies are built. As the lymph bathes the tissue it restores the cells. When the lymph is old or destroyed there is no building.

Lister said, "microscopic organisms in disease are formed by the tissues themselves."

Pasteur said, "No. Take an animal limb, crush it without breaking the skin and I defy you to see micro-organisms formed within that limb."

Destruction of the spot tissue will be a beginning of cancer. The destruction of the blood

platelets will cause blood cancer. Cancer is not a germ disease, but a putrid condition of the cells.

One doesn't get cancer of the lower leg or hands. Only of the soft tissues that harbor the mucous membrane.

Fatty degeneration is a form of cancer. The fatty cells decompose, a chemical change takes place and there is a change in the cells.

Cancer is not a "wild cell." Cancer is a rotting of the cells, where there has been a pressure, an injury, an irritation or abrasion.

Each cancer is different, but if nature didn't try to cure this spot by sending up new cells and if the police didn't swarm into this area, and if the mucous membrane wasn't over-active, and if inflammation wasn't created and this section cooked, and if the lymph wasn't depleted of its natural foods and building material, and if the elements didn't change pattern and oxygen was on the job, there wouldn't be any cancer.

The heat creates putrefaction by boiling the waste product and mucous. This then becomes solid or like partly melted fats.

In the putrefaction the oxygen is missing. The composition of this destruction is, N, H, and C. An alkaloid.

If oxygen could be injected into this material, it might oxygenize (burn) this decomposition.

Given good food, rest away from the direct sunbeams, saline solution, intravenously, and massages near salt water ozone, I believe cancer can be cured.

G. A. Pollard, M.D.



STAR DUST



By JOHN McCABE MOORE

CAN Infinity Be Composed of Finite, or is Reality itself Infinity? How unbreakable is "unbreakable"?

Centuries ago the Greeks envisioned an unbreakable material. From their ideology the term "adamantine" came, as did the word atom. The atom was so named because it was considered, at the time, that the smallest unitary particle of any element was irreducible. The alchemists of the middle ages were nearer to the truth than was nineteenth century science, for they believed that transmutation was possible, and spent life-times in pursuing what nineteenth-century science labelled a will-o'-the-wisp.

The theory of ionization with its great import for chemical science, showed that the composition of matter must depend upon the existence of much smaller particles, which fact was long indicated by electrical phenomena.

The Curies came, giving everything and receiving practically nothing, to demonstrate the natural occurrence of transmutation. John Keeley

dared the unknown on a darkened corner of the stage to discover the controlled transmutation of matter to energy . . . the disruption of the vast nucleus of uranium, taking all the creative effort of contemporary physical science, has become mundane . . . so the atom is transmuted, and no longer the adamantite in any sense of the word. Matter grows and it decays—demonstrably. Some atoms grow slowly and take tremendous ages for their decay.

The recomposite process of Keeley evidences that the proton is not adamantite . . . the electron gives much evidence of being a tremendous photon. . .

Far down the ladder of energy it is seen that light may be transmuted into heat by a pane of window glass. Atoms of all kinds constantly transmute other radiant energy into their own varieties of radio quanta. Magnetism is transmuted into electricity by means of centrifugal force. . . Is there any limit to the range of the decomposition or transmutation of substance or

reality?

How small is small?

The hydrogen atom, smallest of the small in consideration of atoms, is yet composed of the proton and the electron, which in turn are composed of many quanta; if they could be satisfactorily dissected there would be the ultimately small aggregate ponderable to the macrocosm, so fine that present-day science, with its relative crudeness, would be unable to measure or weigh it, or note its effects.

Physics today generalizes the phenomena of gravity and magnetism by using such terms as "attraction," "repulsion," et al. But here science is afraid of its own ground and definitions, because these are faulty. What flashing young mentality that prides itself on its logical processes has ever been satisfied with the conception of gravitation as being of the nature of continuously contracting elastic bands? And what more has physics ever offered in explanation of this vast force?

That gravitation and magnetism are forces

(based upon definite energy forms) is incontrovertible. They do work the same as all other varieties of energy. They are thus quanta, much simpler in form than those of light. Of what are they composed?

Newton suggested that energy must consist of corpuscles. But he failed to endow his corpuscle with the ability to differentiate into many combinations. Had he envisioned a unitary corpuscle composed of sub-cosmic bodies, and recognized its vast counterpart in the Milky Way, a form would have been realized whose weight, power, etc., would have varied directly with the number of corpuscles joined in chain-wise fashion. Also the conception of the infinite would automatically have extended into the microcosm, since each star in the sub-cosmic space of a corpuscle would likewise be composed of atoms made up of electric particles made up of quanta, made up of ultima (term for the unitary corpuscles) made up of sub-sub-cosmic bodies. Is there any limit upon greatness or smallness? Can the infinite be limited?

★ VOLCANICS ★

IT HAS been stated many times by respected authorities that earthquakes can not be accurately prophesied by any known method. However, so far as the writer has been able to ascertain, there has never been a systematic correlation attempted between the magnetism of the earth, volcanic activity, and the earthquakes.

A certain series of ponderous tomes upon the magnetism of earth mentions only one case where the correlation of magnetic unrest and volcanic activity was demonstrable. It was mentioned that the volcanic eruptions were preceded by the magnetic storm and followed by it.*

Within the last few months the British and the Russians have independently discovered that changes of great moment are taking place in earth's magnetism. It appears that it is concentrating in the African region and lessening everywhere else. Also that the north magnetic pole has changed positions in an extraordinary manner of late. This was all known before the recent tidal waves, etc., occurred. It is a source of great wonder that these things have been connected in no manner by the savants. Also of interest is the fact that the sun may be going through one of its changes in magnetic polarity.

It has long been known that the vast magnet within earth behaves more as a raging tiger than a stable, steady force.

If the fluidity of earth's core is sufficient to permit shifting of its mass within the solidified shell, there may be the devil to pay every time there is a major magnetic storm. Not long after the storm which disrupted teletype communications, etc., in

New York and New Jersey, the new volcanic island in the Pacific began mush-rooming its way up from the sea's surface.

Suppose that the magnet within earth goes through tidal changes in accordance with the changing magnetic flux from the rest of the solar system, so that each day earth's crust is subjected to new hydrodynamic strains. Does it not seem logical that occasionally a sea floor might be broken, letting the tremendous concussion of water meeting molten iron blow upward?

During the latest peak sun-spot activity a volcano lived for a year and a half in Mexico. Nobody knew why it was so short-lived. Could it not be that a major tidal shift in the core of earth occurred, allowing the stress to predominate at that point for a time?

How about the explosion of Krakatoa that darkened the skies of the entire world for many months, shot tons upon tons of solid rock into the air and transformed the geography of the region around it?

Where did the earth's satellite originate? Is it a relic of the tremendous explosion of these forces, perhaps within the mystic memory of the human race? Are the scars upon its face the marks of the titanic concussion that might have occurred? If so, what's on the other face of the moon?

The Lemurian Society (expelled from Milwaukee for frightening people) say that Lemuria is going to rise out of the Pacific Ocean once more. If, as they say, it does rise again and the territory east of the Mississippi is inundated, how far above sea-level do you live? Have you a rubber raft tucked up in the attic? Well, the chances for survival would not be very nifty anyway, so let's not cross any bridges until we get there.—John McCabe Moore.

* Magnetic storms are usually lengthy. In this particular case the authority was not seeking the explanation of volcanic activity, but of the magnetic storm.

SCIENTIFIC

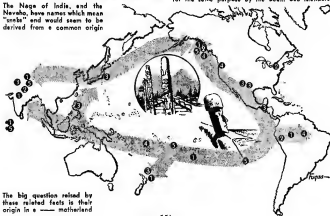


The ocean-going canoes of the South Seas, which is said to have "passed from the eastern to the western oceans and from north to south in ages so remote that the sun had not yet risen" may be part of the legend of Rame and Sila who flew in a grasshopper chariot, and of the "flight" of Hlewatho



The Naga of India, and the Nevaho, have names which mean "snobs" and would seem to be derived from a common origin

Peper mulberry is used for bark cloth by the Mushogens of the Amazon, and is cultivated and used for the same purpose by the South Sea Islanders



The big question raised by these related facts is their origin in a — motherland

MYSTERIES

SHADOW OF ANCIENT INDIA

By L. TAYLOR HANSEN

What is the real meaning of the duplication of so many customs and artifacts in India and America and in the islands of the South Seas?

ONE cannot scratch the culture of the Pacific from Asia to the South Seas without finding the shadow of Pre-Aryan India. As Chiera and other archaeologists engaged upon the Mediterranean excavations are discovering, the Aryan conquest of India, somewhere between the first and the fourth millenniums B.C. overthrew a vast maritime power whose great skill in science was merely taken over, apparently by the Greeks, and not initiated by them.

Chiera predicts that another fifty years of excavation should establish beyond doubt, that this race of brown-skinned, dark-eyed, beardless, Turanian-speaking people, whom the Aryans banished into the class of "untouchables"—after giving them their beard—were the real civilizers of the Mediterranean before either the Aryan or the Semitic invasions.

That this civilization was ocean-going, millenniums before the curtain rose upon what we know as history is possible, as is the fact that it was the substructure upon which arose Egypt and the later civilizations to the west, as well as the Asian civilizations to the east and north of it. Yet according to their own legends, still rich in the stories of the past (though the sages fled to Egypt and Tibet) the old wrinkled land of India herself was not the original motherland.

It is possible that this culture was once borne to old America from Asia. Yet one must admit, that it came from an Asia less heavily overlaid with later cultures than the present Asia. Upon the other hand, it may have come directly by sea. Yet if we grant this ancient connection, we must grant that it was cut off at the Aryan invasion, because of food-plant disconnection. Or there is that startling possibility—(though one must admit because of the hazard of such a guess in the face of the abysmal ignorance of archaeology concerning South America, that it is more romantic than coldly scientific)—that these two Americas may have been the original "Motherland"?

South America is by far more deeply imbued with this culture than North America, and it is entirely probable that that which is in the northern continent came by the way of Asia, or possibly by the South Seas. For example, in the far

northwest among the Alaskan tribes, The Raven is prominent upon the totem poles. The bird is usually pictured with a tall hat, which is not only reminiscent of the priesthood of the South Seas, but also that of Pre-Aryan India, and the culture trait culminates in the tall white crown of the Southern Nile. The giant figures which faced seaward upon Easter Island, when first seen by Europeans, all wore tall hats.

On Cat Island, in South-eastern Alaska near Keichikan, stands a totem pole of the Thlinget Indians who are Athapascans of tongue and are therefore members of this family of the Wolf Totem which runs down to Arisoom, where the vanguard of the Denes—the Nava-boes and Apaches are located. Upon this totem pole is a thin-faced man in a squatting position, with a tall hat which Corser remarked upon as being similar to the Easter Island statues.

The South Seas' claim is perhaps strengthened by the dugout canoes with the prow which sweeps from the water like the sinuous neck of a great water-snake. This ocean-going canoe, seating from twenty to fifty rowers, is to be duplicated again among the Maori and is perhaps an inheritance from that older civilization which left their language traces upon the islands of Japan and the Philippines and whose fleets are said to have "passed from the eastern to the western oceans and from the southern to northern seas in ages so remote that the sun had not yet arisen." (The first sun-empire?)¹

According to the Ramayana, Prince Rama, the father of India, was attacked by the power of The Raven, who carried off Rama's beautiful wife, Sita, in a great flying chariot. The old literature of India is filled with stories of flying machines, and it is to this source that we can finally trace such tales among the Amerinds, as may be found in the Hiawatha legend of the Iroquois, for exam-

¹ The Denes is the name of the Athapaskan-speaking tribes for themselves. Its meaning is "people."

² Quotation is from the Hippolyte Fauche translation of The Ramayana.

ples². Did the story reach the Iroquois via Persa where they are even more prevalent, or like similar legends among the Athapascans, from a possible Asian route?

Mme. Blavatsky whose translations of antique fragments of a Pre-Aryan Indian literature are honest attempts to create the atmosphere of this lost world. If there is much discussion of air travel, it is not her fault, but that of the literature itself which is filled with the subject. It is not necessary that we regard these fragments as historical, but it is necessary that we regard Indian literature as the original source of the magic-flight stories. It is as much a clue to origin as language itself.

FOLLOWING the Dene, or the Athapaskan people, on down into Arizona, we find the Keresian Medicine-man giving the following information concerning them. According to the oldest legends of the Keresians, the mother of the Pueblo peoples was Urutsiti, or Spider-mother, while that of the Navahoes was Naotsiti or Serpent-Mother. This name is rather startlingly Malayan. Naga is, of course, the hooded cobra or the "Great Snake" of India, while Sita is India's mythological "Mother."

Yet perhaps it is no more so than "Shaman" which means "medicine-man" in America and "ascetic" in India. Nor is it more surprising than the answer in the Zuni tongue, when asked as to their legendary homeland. Their reply names two. One is Iltwana, which is strikingly Caribbean in origin, and the other, Hawalki, is the name of the Maori for their sunken homeland supposed to have existed between Tahiti and the Fiji Islands, many millenniums ago.

In studying the culture of the Pajarito Plateau,³ science has discovered that "Navaho" may have been an ancient Nabua word for "widely-cultivated fields." This brings a leading suggestion that the word may have been originally "Naga-ho," and the early snake totem of India (addressed in a song recently translated from the Sanskrit⁴ as "Devil-killer and Trident-holder"), was the ancient power which terraced the land around the early Pacific. The word "naga" is still in use throughout the Pacific, although it seldom still means the cobra. In Japanese it means length; in Maori something sinuous as the brow of a wave, etc.

Did the early Navaho once amalgamate with these people of the widely cultivated fields, whom they speak of as the "ghostly" ones? Did the Wolf Totem, of the Dene People, in crossing the Aleutians more than a millennium ago, conquer

and amalgamate with the lost tribes of Pacific Nagas whom they encountered, as well as the refugee tribes of their god Tamena, who may have come from the Caribbean? If not, why does the Athapaskan tongue carry this three-way cross right up to the very bridge of the Aleutians?

There is one rather startling bit of cobra evidence in Chichen Itza. Upon a stone ring, found in that ruined city, are engraved two inter-twined snakes. One is a feathered serpent, and the other without doubt, is a hooded cobra.⁵

For a moment, let us suppose that the Aleutians was the way of entry for not only the volcano-worship still evident in Japan and the Philippines, and the entire Dragon-culture, but also the early Pacific Naga-culture. We will, of course, have to place their entrance very early, as great language separations and plant separations must be allowed the necessary expansion period. Yet, even so, we soon run into trouble. Paper mulberry used for bark cloth in the Amazon and domesticated by the Muskhogean,⁶ is a South Sea Island plant also, and used for the same purpose. A similar bark-beater to the South Sea type is scattered along the Pacific coast from California to Oregon.

Nor is this all. A long list of plants, including the coco-palm, the gourd, the bread-fruit, the banana and the sweet potato have been described by the earliest travelers in America, and some such as the banana have been here long enough to gain much variety. We cannot regard the warmth-loving parrot as a trans-Aleutian passenger, with any reasonable degree of assurance, but it is fantastic to suppose that the banana and the bread-fruit, which are both tropical plants, and must be cultivated by hand from small shoots, were carried by Arctic tribes across the frigid Aleutians. Grapes, for the abundance and variety of which the Norse named the American shores "Vinland," and whose many wild types argue a longer residence than the Spanish-born theory would allow, as well as the fig, a known tropical plant, and probably of American parentage,⁷ all throw great barriers in the way of the Aleutian theory as the sole means of Amerind population.⁸

ON THE other hand, in all of this exchange, it is strange that corn, which is such a fundamental plant to the Americas, should have remained here. Was the connection between South America and India cut off before the advent of corn? Or, putting the question another way, was

² *Kidder: Pottery of the Pajarito Plateau by same. An Introduction to Study of Southwestern Archaeology.*

³ *See accounts of earliest Muskhogean territory.*

⁴ *A parent of the fig was recently found in the Miocene of Oregon.*

⁵ *For sidelights on early plant distribution see Ferdinand Columbus and others. Also Joyce.*

² *Himnatha, according to the Senecas, finally left them by his flying canoe which soared upward until it was lost from sight.*

⁴ *Ryder: Twenty-two Gobblins.*

⁵ *A picture of this ring is in Bancroft "Antiquities," Vol. IV of Native Races.*

the Pacific connection with Asia so old, that the Asian plant of rice was able to become the vastly different variety which is still gathered by the Algonkin Chippewas?

Thus languages and plants are acting as a time check upon the rather natural tendency of science to make of human history a recent thing. As knowledge gains a greater accumulation of facts, these facts demand a time-check and the horizons of early events are forced backward. Radin points out that if we are to give the Amerinds only fifteen thousand years for the settling of America, for example, we must then admit that they came here in groups of fifty-eight different language stocks which were separated in Northeastern Asia. However, as this does not fit in with the present or the past picture of Northeastern Asia, we are then forced to admit a greater antiquity for the Amerind.

In a like manner, the theory of exclusive Asian origin, long a favorite among Amerind scholars, is now in the process of being mended and repaired, like a much-beloved but rather badly out-

worn suit, against the dawn of that inevitable day when it must be regretfully discarded.

Will that time coincide with the greater knowledge that investigation and excavation of India and of South America will throw upon the past? Yet the solving of this possible ancient connection of Pacific powers, and their link to Egypt and the other early nations of the Mediterranean, may but lead to another question, as the answering of scientific questions has a way of doing. That question for which we may never learn the answer, will undoubtedly be—"Where was the Motherland?"

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★ CIRCLE-WINGED PLANE ★

A GAIN and again do new design planes and wings become more evident as progress marches along. In this article we describe still another that has answered a lot of head-aches and utilizes principles overlooked by many designers. This plane is designed for speed, strength and maneuverability.

Models of the circle-winged plane were built and tested with the current models available in 1927 in the city of San Francisco, from high buildings to check on tail-spin and gliding ability. It was found impossible to "tail-spin" the circle-winged job, and its gliding ability was found to be at least four times that of any other type, with no stalling factors. They almost seemed to fly themselves!

The principles involved? Easy, when it is pointed out to you. How many of us at some time have taken a "playing card" and held it between our fingers and flipped the card edgewise into the air? Remember how it "slid" through the air with very little of applied force? Yes, that's it; a wing designed to be almost flat with knife edges. Circular in shape, with an inner opening, like a flattened cookie or doughnut.

The circle design has the strongest and best pressure distributing and equalizing ability, and the weight is supported so that the pilot does not have to "teeter" every balance factor against up-and-down air drafts and sudden weight shifts from any direction.

A stream-lined fuselage is hung from the outside edges of the wings, the fuselage having retractable landing wheels, two in front and two in the rear, and four-wheel brakes. Above the wing and from the plane body in front and back are the two rudders. The wings' outer edges are pivot type, fastened at the fuselage. The inner circle

edge is moved upward and downward by pivot fastenings on a lever arm coming from the interior of the plane. In fact, all wing and rudder movements are controlled by either "T" beams or tubular connection through lever action to the pilot's controls.

The motors are contained within the fuselage, and the propellers are on each side of the fuselage, and between it and the inner circle of the wing. The standard type of propeller was not found suitable for this plane; but a slow-moving "deep pitched" type with extreme air grabbing ability was the best.

At the pilot's option this plane can be skimming forward through the air, and by swinging the rudders, can be used to spin like a pin-wheel. The pilot's "blister" is in the center of the inner circle area of the fuselage's top side. Take off and landing speeds are materially reduced, and the plane with Ghyt No. 1 motors has clocked better than 1000 miles per hour at 20,000 feet elevation. The ceiling of this ship is above 60,000 feet altitude.

Rate of climb and dive speeds are controlled by the raising or lowering of the inner circle of the wing. It was found impossible to "slide-slip" this plane, and any attempts to do so by the pilot produces a "banking" movement of the plane. On level flight the riding ability is as smooth as the latest "Stream-Liner" train, with the ability of an antelope to move in any direction at will. Truly a "Pilot's dream" come true.

The entire ship is pressurized for high altitude. The wing diameter from one outer wing edge to opposite side edge is 100 feet. Length of fuselage, 135 feet. Passenger capacity, 40 people.

Fuel tanks are contained in the wing and have honey-combed cells internally.

—W. C. Hefferlin.

The FRAME CONCEPT of NUMBERS, TIME AND SPACE

By ROGER P. GRAHAM

Editor's note: The following article is presented by Mr. Roger P. Graham in connection with his statement in this magazine some months ago that he had received, from some mysterious source, a new concept. He linked this new concept's source indirectly with Mr. Shaver's "cave" stories, and it is offered as a "proof" of the real existence of the "Shaver Mystery" and as proof of one of the weird phases of it (that of strange knowledge being imparted to various people by mysterious means ranging from "voices" to just pure "inspiration"). Your editor advises those of you who are without mathematical background to ignore the article, and view the space devoted to it as a necessary scientific "study" toward the goal of proving or disproving Mr. Shaver's "mystery." Those of you who can grasp Mr. Graham's mathematical reasoning are invited to comment on it to this editor. If you can take Mr. Graham apart, by all means do it. If you recognize something new and strange here, by all means tell us. For if it IS new, then there is positively something to the Shaver Mystery!

* * *

ONE day several years ago I asked myself, "Is there any way of determining how big the real universe is?"

By that I did not mean how many light years in diameter it was, but whether it was finite or infinite. There is a good deal of literature on the subject, but none of it arrives at any satisfactory conclusion.

At the time I was working as a welder in a shipyard in Seattle, Washington. Solving this problem merely meant that I would have to do more of my sleeping at home and less of it at work, so I started to mull it over.

Exploding universes, curved space, n-dimensional space, and all that stuff began to look like blind alleys, so I did something radical. I re-examined Euclid. With surprising results. I found that Euclid had missed something.

It wasn't Euclid's fault, really, because Cartesian co-ordinates did not come in until after his time, and the concepts of infinity and zero, as applied to numbers, did not really

develop until Newton and Leibnitz brought out their basic calculus technique.

The reasoning I used was not strictly rigorous. It started out something like this:—

Consider space as being Euclidean, and every point in space fixed and unmoving. Now either, (1) every pair of points in space, however far apart relative to some arbitrarily chosen unit of length, are separated by a finite distance, (finite number of light years, for example), or, (2) there are pairs of points which are an infinite but fixed and unmoving distance apart.

If (1) is the case, then space is finite, and if we give some object an infinite velocity for some finite period of time—say five minutes—it will pass out of space. An absurdity. (We could deny the possibility of infinite velocity, but AFTER ALL, I was only probing.)

Now there is a qualitative difference between finite and infinite. No finite distance, however great, is infinite. No infinite distance, however small, is finite. But are definite and infinite incompatible? No! As an example, the family of points which are a unit of length on a line has an infinite number of members, but the whole or aggregate or sum of the members is a perfectly definite unit of length. Hence, by analogy, at least, it is possible to conceive of a succession of units of length, a distance that has an infinite number of finite units of length, that is a perfectly definite though infinite distance. It is further possible to conceive of multiples and fractions of this infinite distance.

Hence, case (2) is not incompatible with our conceptions of space, while case (1) is.

If we define some infinite number by the symbol ∞_1 , and say that ∞_1 light years is the infinite unit of length we can build up a picture of an infinite space frame in which all distances are infinite relative to our finite distances, but finite relative to one another. Each is a finite multiple or fraction of every other. And any distance that is finite to us would be a zero part of any of those infinite distances.

The foregoing reasoning led inevitably to a re-examination of the conventional concepts

of zero and the Euclidean point, and then to the general theory of FRAMES as applied to any everywhere-dense, continuous medium such as space, time, or numbers. The general theory is concerned mainly with numbers, since a co-ordinate system can be imposed on space and time directly.

I INTRODUCTORY DISCUSSION

WHAT is a number? In order to know what is meant in mathematics by the word number, one would almost have to specialize in that one word alone, and he who would dare to speak authoritatively on the meaning of the word, especially if he is asserting something new and not previously known or accepted into the body of literature on Number, is more or less asking for trouble.

There is a certain process called counting, or the putting of the elements of two sets into one-to-one reciprocal correspondence to show they have the same number of elements. But this process just evaluates a number and does not define one.

It has always seemed that number necessarily meant quantity, yet it can hardly mean that if a line an inch long has as many points in it as one a mile long.

The first ideas about number were the result of scientific experiment, and are generalizations found to be universally true and consistent. Thus, $4x$ plus $2x$ equal $6x$, where x may be apples, men, or any other thing, gives us (4 plus 2 equals 6) x . Then by ignoring the x and considering only the statement in parenthesis we get the abstraction called number. This abstraction was discovered early in man's history, but its development as a concept has been very slow.

In the following pages I am going to ignore all the literature on the subject and define a number in a certain way. Also I am going to define "greater than," "less than," and "equals." From these definitions and these only are the conclusions drawn which result in the concept of a number frame, and the frame structure of numbers, space, and time continuums.

When any group of objects is considered by itself and is counted, experience has taught that there is a definite number of objects in that group. Thus, in a box of oranges there are twenty-seven oranges, found by counting. If we abstract the idea of an object and regard the oranges as just objects, we say there are twenty-seven objects in the box. And if

we abstract further and disregard the box we may call "an orange in a certain box" an element of a set, and say there are twenty-seven elements in the set. Then we may abstract the number of elements in that set and call it the CARDINAL NUMBER of the set. Then we may go further and form twenty-seven sets different from this one set, each set having a different cardinal number, the set whose cardinal number is one, (1), being, in plain language, one orange considered by itself.

Now, if we lay the oranges in a row on the table and count them from left to right, the one on the extreme left is the first orange, or the first element of the set, and the one on the extreme right is the twenty-seventh orange, or the twenty-seventh element of the set. Then we say that the number of the element in the set is the ORDINAL NUMBER of the element. An ordinal number is used to denote the position of an element while a cardinal number denotes the quantity of elements in the set without regard to position. And it makes no difference whether the elements are oranges or inches. If there are five inches in a certain length there is a first, second, etc., inch, and regardless of which is the first, etc., there are five inches.

So far we have two different kinds of numbers, cardinal and ordinal, which are almost unrelated. Both depend on the method of counting for their determination. The ordinal number of an element in a set is purely arbitrary. The cardinal number of a set of elements, however, is not arbitrary, but is definite, and ITS VALUE DOES NOT DEPEND ON WHETHER IT IS KNOWN OR COUNTED. Thus, the number of living horses and colts on earth at this moment is not known and probably cannot be determined by counting or any other actual method, yet it is obvious that it is a definite number and that the set of elements which are living horses and colts is a cardinal set.

What a number IS does not mean how do you arrive at a number. You may not be able to arrive at it at all. So any real definition of number should be independent of the means of arriving at it. There are sets that cannot be possibly counted, yet we can be sure that they have a definite cardinal number. So we are going to define a number in the following manner:—Any set of elements, the elements being distinct and mutually exclusive, (that is, some part of one element is no part of any other element in the set) is a cardinal set (has a definite number or quantity of elements), PRO-

VIDED THAT it can be shown that there exists or could exist a second set formed by adding one element to the first set, and a third set formed by taking one element away from the first set.

Using symbols, we say the same thing this way:

if $C + 1 = C' \neq C$

and $C - 1 = C'' \neq C$

(\neq means "does not equal")

where the unit, 1, denotes an element of the set or similar to those in the set.

Then

$C = c$ elements of the set, C ,

and

c is the cardinal number of C .

One might think that all sets have cardinal numbers but such is not the case. Just as there are sets that cannot be counted, but can be shown to have a cardinal number, there are also sets that cannot have a cardinal number. These will be discussed later.

NOW, just as number is inextricably linked with quantity, so also is "greater than." In general, "greater than" has a much broader meaning and application than we are going to give it here. We are going to define "greater than" in this way:

Def.:— C is greater than C' ; every element in C' is in C also, but there is at least one element in C that is not in C' .

This is a very specialized definition. In this form it will be impossible to determine, for example, whether a box of oranges has more oranges in it than there are cows in a pasture. That can only be determined by some method of counting, and we are eliminating all reference to counting in our definitions.

C is greater than C' does not necessarily mean that both sets have cardinal numbers. A set of several oranges is greater than a set of two oranges, but several is not a definite quantity. It is merely a set of more than a few.

The converse of "is greater than" is "is less than." Therefore the definition of " C is greater than C' " also holds for the definition of " C' is less than C ."

Holding to our efforts to eliminate every reference to counting, we define "equals" in this way:

Def.:— C is equal to C' ; every element in C is in C' , and every element in C' is in C .

This definition restricts the meaning of

equality so that we can only say that a thing is equal to itself.

Now, we have regarded any set as being the sum, or aggregate, of its elements, regardless of the order in which they are put together. That is, a set is equal to the sum of its elements, or, a thing is equal to the sum of its parts, PROVIDED THAT its parts are mutually exclusive. If they are not mutually exclusive anything can happen. Thus an area of two, mutually exclusive square inches can be shown to be an infinite number of square inches if the restriction, mutual exclusion, is not imposed.

Any cardinal set may itself be considered an element of a greater cardinal set, and hence, its aggregate treated as a distinct unit. In that case, if C is the set to be considered as a single element C/C equals 1, and its cardinal number, c/c equals 1.

Letting the cardinal number of the whole set, C , be one, necessarily implies that the cardinal number of any subset of C when related to the whole is c'/c , where C' is the subset. Then any element of C , when related to the whole set, C , is $1/c$. Thus, we see that any fraction can also be a cardinal number of a set related to a greater set which is considered as an element or unit of a still greater set. And a cardinal number is still definitely a measure of quantity when it is a fraction. For example, $1/4$ of an inch. That quantity implies that an inch may be regarded as a set of four equal lengths, the cardinal number of the set being 4, but that this set of 4 lengths is itself an element of a still greater length, or is sometimes so considered.

By the processes of addition, subtraction, division, and multiplication of numbers used in arithmetic, all fractions may be changed to decimal numbers, so that the decimal number is also a cardinal number.

We may generalize the concepts of numbers to include both ordinal and cardinal numbers, abstracted from their applications. We have said that no number, by itself, means anything. That the number, five, for example, is nothing, but that five apples IS something. A number is an abstraction from experience, and if we abstract the idea of a five from its ordinal and cardinal applications we have what is called a REAL NUMBER. The real number, five, is the idea of a five divorced from every application.

It is not our intention here to discuss the nature of existence of a real number, except to point out that it has the same KIND of ex-

istence as the abstraction called space. Just as any real thing is IN space, so also any set has a cardinal number that is IN the class of real numbers.

THERE is one further idea that must be put across in this introductory discussion. It is the idea of the difference between anything FINITE and anything INFINITE. In general, finite means bounded and infinite means unbounded, but not always. Thus, the family of points called a line one inch long is an infinite set, but it is bounded on both ends. However, if we try to express the number that is the cardinal number of this set, we see that if it can be expressed at all it must be something like a number, one followed by an endless string of zeros. If we call any digit or zero in the series used to express a number an element of the number expression we may say the number 1,000 has four elements. Then we may state without reservation that an infinite number is one that has an endless string of elements of expression, and a finite number is one that has a string of elements of expression that is bounded on both ends. Then an infinite number is merely an endless decimal with the decimal point removed.

Thus $1/3$ equals .3333 . . . without end, and there corresponds 3333 . . . without end, which is an infinite number. A string of threes with five thousand billion elements of expression would therefore be a finite number, and a distance of that many miles, or light years, (the distance light travels in one year, going 186,000 miles per second is a light year), is a finite distance. Also, a billion times that distance is still a finite distance.

All of these numbers, finite and infinite, are called inductive numbers by the mathematician because they are created "in concept" by the process of mathematical induction. And all of them including fractions and decimal numbers, when they are considered without any application to sets of real things, but are considered just by themselves, are elements of the set of real numbers, or members of the class of real numbers.

WE ARE now in a position to lay the foundations to this study of numbers out of which is to emerge the frame concept of numbers, space, and time. We started in by asking what a number is, and found that a number IS, whether it can be evaluated or not, and that it can be defined independently of any possibility of its being evaluated. We

have discussed two kinds of numbers, cardinal and ordinal, and found that they fall into one class, called real numbers. There are kinds of numbers we have not discussed, such as imaginary and fanciful numbers. We will continue to leave them alone and confine ourselves to real numbers. Real numbers, when applied to things called sets and elements of sets to determine their cardinality are called cardinal numbers. Real numbers may be found independently of cardinal numbers by means of the operations of arithmetic, (addition, subtraction, multiplication, and division), and cardinal numbers may be defined independently of arithmetic and without even any evaluation of them, such as the cardinal number of the set of all horses and colts living at this instant.

Fractions and decimals are also real and cardinal numbers. In fact, every cardinal number is an applied real number, and every real number can be applied as a cardinal number, but it can also be applied as an ordinal number, such as the number of a page in a book, the license number of a car, the address of a house, etc. Even fractions can be applied as ordinal numbers, as is evidenced by the statement, "I am writing the first half of this study last."

In this introductory discussion we attempted to eliminate counting, or one-to-one reciprocal correspondence, and have done so by rather stringent definitions. Some of our definitions are different than those generally accepted in conventional mathematics. For example, conventional mathematics says that the number of points in a line a foot long is no greater than the number of points in half that length, while our definitions say that any line has more points in it than a part of it has. This discrepancy will be dealt with and we will show that the proof that the cardinality of two families of points which are unequal lengths are equal, is an invalid proof arising from lack of precise clarification of fundamental terms such as different point, no part, etc.

Right now, though, we must collect and systematize the definitions and concepts which we have discussed into an ordered list, so that they may be referred to by their ordinal numbers in future discussions.

II

FUNDAMENTAL CONCEPTS AND DEFINITIONS

(1) **THING:** a thing is any distinct material object such as an orange, or any distinctly

defined concept, such as a word. In other words, a thing is any distinct object of thought.

(2) SET: any group of things, or objects of thought, may be regarded as being a whole, or as being together in some way, such as a box of apples, a jury, the solar system, or all passenger autos in Nevada. Any such group is called a set, and the things which comprise the set are called the ELEMENTS of the set.

(3) SUBSET: any set whose elements are ALL in a set which has, in addition, other elements not in the subset. A set cannot be a subset of itself, for it must have at least one element not in a subset of itself.

(4) MUTUALLY EXCLUSIVE ELEMENTS: If two supposedly different elements in any set have no parts, however slight, in each to the exclusion of the other, it is obvious that the two supposedly different elements are in reality the same element. It follows that every element in a set must have some part, however slight, that is not found in any other element of the set. If every part of any element in a set is in that element alone, and not in any other, every element of the set is said to be a DISTINCT ELEMENT.

(5) Any set of elements may itself be considered an element. This follows from (1) and (2).

(6) GREATER THAN: if C and C' are two sets such that every element in C' is also in C , but C has at least one element not in C' , then C is greater than C' , and C' is LESS THAN C . In other words, any set is greater than any of its subsets, and any subset of a set is less than the set.

(7) EQUAL: If C and C' are two sets such that every element in C is in C' , and every element in C' is in C , the two sets are equal. From (4) it follows that C and C' are the same set and that a set is only equal to itself.

(8) CARDINAL SET: any set such that it can be shown that there is, or could be, a second set which has one more or one less element, the second set being not equal to the first.

(9) CARDINAL NUMBER: Any cardinal set, C , is said to consist of c elements. Then the symbol, c , is said to be the cardinal number of the set, C , regardless of whether it can be evaluated in term of digits and zeros or not.

(10) NON-CARDINAL SET: any set, so determined that it has no cardinal number.

(11) ORDINAL SET: any set such that every element is assigned a number, or identifying tag of some sort, which fixes it definitely

in relation to other elements of the set. Thus, the fifth chair is between the sixth and the fourth chairs.

(12) ORDINAL NUMBER: the number, or identifying tag, of an element in an ordinal set.

(13) REAL NUMBER: the abstraction of the concept of a number from an applied number. For example, the real number, five, is the thing common to five apples, five locomotives, the fifth apple, and the fifth locomotive.

(14) EXPRESSED NUMBER: any real number which can be written as an expression of digits and zeros, the digits being 1, 2, 3, 4, 5, 6, 7, 8, 9.

(15) DEFINED NUMBER: any number symbol that is so defined that it is a single, real number, regardless of any possibility of completely expressing it. Thus, π is a defined number which can be only partially evaluated, but is nevertheless completely defined and distinct from all other real numbers.

III

THE CLASS OF FINITE INTEGERS IS A NON-CARDINAL CLASS

Proof:—Let any set of finite integers be N_f . Then

$$N_{f1} = 1, 2, 3, 4, 5, \dots, f_1$$

and f_1 is the cardinal number of that set. But it is also an element of that set, hence, is a finite integer. Since N_{f1} is any set of finite integers, it follows that every set of finite integers has a cardinal number which is a finite integer.

Now the class of all finite integers cannot have a finite integer for its cardinal number, for there would be a finite integer greater than the cardinal number which would then be excluded from the class of all finite integers—an absurdity.

If we say the cardinal number of the class of all finite integers is an infinite number, (p. 161), we assert a contradiction, for then we say that the number of finite integers is greater than the number of finite integers.

And we cannot invent a symbol and define it as the cardinal number of the class of all finite integers, for, to do so would violate the definition of a cardinal number.

(1) Therefore, the class of all finite integers cannot have a cardinal number. Q.E.D.

(2) It follows that the class of all finite numbers, a finite number being the sum of a finite integer and a decimal number, is a non-cardinal

class also. It will be called the finite number frame.

(3) Def.:—Frame; non-cardinal class.

(4) Def.:—F; the finite number frame; the class of all finite numbers.

IV

THE INFINITE NUMBER, n_0

(1) Def.:— N_0 ; the set of all finite numbers in the interval, $[n_1] n+1$, where n is any finite number > 0 , (greater than zero).

N_0 is a cardinal set, for there is a set $[n, n+1]$, which has one more element than N_0 , and there is also a set, $n [1] n+1$, which is a subset of N_0 , having one less element than N_0 . Hence (II, 9), N_0 has a cardinal number.

(2) Def.:— n_0 ; the cardinal number of the set, N_0 ; the number of finite numbers between any finite integer, including that integer, and the next finite integer, excluding that integer.

That n_0 is greater than any finite integer, however large, is an accepted fact. But that it is a real number, whether it can be an expressed number (II, 14), or not, must be demonstrated here, even though it follows from the definitions in II that it is.

(3) Since n_0 is a real number, its reciprocal, $1/n_0$, is also a real number.

DILEMMA:—if n_0 is the number of finite numbers in the unit interval, then, letting n_1 be any of these, it follows that $n_1 + 1/n_0$ is the next finite number, n_{1+1} . Therefore there can be no finite number between n_1 and n_{1+1} .

Now if n_0 is a real number, so also is n_0^2 , and it is greater than n_0 . Hence $1/n_0^2$ is less than $1/n_0$, and $n_1 + 1/n_0^2$ is a number between n_1 and n_{1+1} . By carrying this line of reasoning out, it can be shown by mathematical induction that if there are n_0 numbers in the interval between any integer and the next, there are $n_0^{n_0}$ numbers.

RESOLVING OF THE DILEMMA:—Every finite number in the interval is expressed as n plus a decimal number, (p. 4). Each element of the decimal can have one of ten different values. Hence, if there are n_0 digits and zeros in the decimal there are 10^{n_0} , (ten raised to the n_0 power), different decimal numbers, and the cardinal number of the endless sequence of digits and zeros after the decimal point in any non-terminating decimal number is

(4) $n_0 = \log_{10} n_0$

Now, if we let n_0 be expressed as the digit, 1, followed by a non-terminating string of zeros, its reciprocal, $1/n_0$, becomes, theoretically,

a decimal point followed by an endless string of zeros with the digit, 1, at its hypothetical end. Whether an endless string of zeros can have a one at its end when there is no end is beside the point since $1/n_0$ CAN be expressed as a fraction. The point is, this is actually the only possible theoretical difference between any endless decimal and the next. It is the difference between 1.00000 . . . and 0.999999 . . .

It follows that $1/n_0^2$ cannot be expressed as a fraction or a decimal, for it would have to be a decimal point followed by an endless string of zeros followed by a second endless string of zeros followed by a one. And by the same line of reasoning, any real number less than $1/n_0$ cannot be the difference between two expressed, finite numbers. Therefore, $1/n_0$ IS the difference between any finite number and the next finite number. Logically, if we wish to make our number continuum everywhere dense, we must define any finite number, n_1 , thusly:

(5) Any finite number, n_1 ; the family of real numbers in the interval, $[n_1] n_{1+1}$.

The error which gave rise to the dilemma was the assumption that every real number in a number interval bounded by finite numbers could be an expressed number. (II, 14).

V

THE ZERO NUMBER FRAME, F/n_0

(1) Any finite multiple, f_1/n_0 , of $1/n_0$ is less than any finite number, however small.

Proof:—Let f_1 and f_2 be any two finite numbers, however large.

Then $n_0 > f_1 f_2$
Whence $1/f_1 > f_2/n_0$ Q.E.D.

(2) Def.:—Zero part: f_1/n_0 , any finite multiple of $1/n_0$.

(3) Def.:—Zero number frame; the class of all zero parts. The zero number frame will be denoted by the cipher, and since F is the finite number frame, $0 = F/n_0$. (= is read, "is identical with")

(4) The zero number frame is a non-cardinal class.

(The differential as a real variable in the zero number frame will be discussed later in this work.)

VI

THE INFINITE NUMBER FRAME

THE following line of reasoning may be somewhat loose but is nevertheless logical.

It first led to the discovery of the concept of frames.

Consider space as being euclidean, and every point in space fixed and unmoving. Now, either (1), every pair of points in space, however far apart relative to some arbitrarily chosen unit of length, are separated by a finite distance, (finite number of light years, for example), or (2), there are pairs of points which are an infinite but fixed and unmoving distance apart.

If (1) is the case, then space is finite. Now if space is finite and we give some object an infinite velocity for some finite period of time it will pass out of space and go beyond it, an absurdity.

Now there is a qualitative difference between infinite and finite. No finite distance, however great, is infinite or endless. No infinite distance, however small, is finite. They are qualitatively separate concepts. But, are definite and infinite incompatible concepts? No. As an example, the family of points which are a unit of length has an infinite number of members, but the whole or aggregate or sum of the members is a perfectly definite unit of length. Hence, by analogy at least, it is possible to conceive of a succession of units of length that has an infinite number of members and is a definite, though infinite distance. It is further possible to conceive of multiples and fractions of this distance.

Hence, case (2) is not incompatible with our conceptions of space, while case (1) definitely is.

If we define some infinite number by the symbol, ω_1 , and say that ω_1 light years is the infinite unit of length, we can build up a picture of an infinite space frame in which all distances are infinite relative to our finite distances, but are finite relative to one another. Each is a finite multiple or fraction of every other. And any distance that is finite to us would be a zero part of any of these infinite distances.

The above reasoning led inevitably to the analysis of conventional concepts of zero and the point, and then to the general theory.

However, after completing the previous parts of this paper it is possible to say at once that if F is our finite number frame, and 0 is our zero number frame, then $F\omega_1$ is our infinite number frame.

(3) Def.:— ∞ ; infinity; the class, $F\omega_1$, the infinite number frame.

VII

THE GENERAL FRAME THEORY OF NUMBERS

CALLING the zero number frame the frame lower than the finite frame, and the finite frame the one lower than the infinite number frame, we can make certain general rules about any number frame and the one higher, independent of which is the finite one.

(1) Any interval in any frame is a zero part of any interval in the next higher frame.

(2) Any interval in any frame is an infinite interval relative to any interval in the next lower frame.

By writing the three expressions for the zero, finite, and infinite number frames thusly,

$$(3) \quad 0 = F\omega_1^{-1}; F = F\omega_1^0; \infty = F\omega_1^1$$

we see at once that any number of frames may be expressed as powers of ω_1 , ascending and descending without limit. Thus, the frame,

$$(4) \quad 0^0 = F\omega_1^{-\infty}$$

$$(5) \quad \text{and the frame } \infty^{\infty} = F\omega_1^{\infty}$$

and there is no highest (largest) nor lowest (smallest) possible frame.

Letting the class of all real numbers be N_r and the class of all cardinal numbers be N_c , we obtain

$$(6) \quad N_c = F\omega_1^{N_r}$$

as the class of all real numbers. Since this class is obviously a non-cardinal class, we may call N_r the real number frame, or the frame of all real numbers.

If there could be a greatest real number, it would be expressed in the following manner;

$$(7) \quad \begin{matrix} n_0 \\ n_1 \\ n_2 \\ \vdots \end{matrix}$$

as an exponential string whose elements are each n_i , and the cardinal number of this string of n_i 's is necessarily n_0 . Hence, by mathematical induction we can show that a greatest number would be greater than itself, an absurdity. In any case a still greater number could be defined by replacing each n_i with an n_i in the expression, (7).

The least possible real number would be the reciprocal of the greatest possible number, hence, is just as impossible. It would have, theoretically, the value, absolutely no real value at all. Suppose we let n_0 be this hypothetical absolute zero of real numbers. Then

$$(8) \quad \begin{matrix} n_0 \\ n_1 \\ n_2 \\ \vdots \end{matrix} \quad n_0 < 1/n_0$$

It at once becomes apparent that no multiple or power of n_0 , however great, could equal even an inconceivably small real number, in a number frame inconceivably far below the finite one.

We may define n_0 exactly, in the following manner;

(9) Def.:— n_0 ; the number of oranges in a box that has never been within a hundred miles of an orange and never will be; the value "no" in the expression, "no part of," in contradistinction to the value "zero" in the expression, "a zero part of." And we may draw certain conclusions regarding n_0 . It is not a real number. It is below, or less than any real number. No number of n_0 's can make a real number, for no number of boxes of no oranges could create an orange. If this were not so, then anything could be created by building boxes and boxes until, with nothing in any one of them, you could find anything you wanted somewhere in the whole, but still not in any one of them or between any of them.

VIII

A GENERAL DISCUSSION

(1) We now have the necessary concepts to answer the question of what is wrong with putting the points on two straight lines into one-to-one reciprocal correspondence by means of a third straight line intersecting the two.

A point cannot be without extent because there is no smallest space frame. Why can't we simply DEFINE a point as having no extent whatever in any direction? Suppose we do define it that way. We must further state that there is no extent whatever between any point and the next, or the family of points would not be everywhere dense. We then conclude that some family of points of no extent whatever, (n_0 extent), which have no extent between each and its neighbors, results in a totality which has extent.

The only reason that type of reasoning ever SEEMED to be valid was that it could be pointed out that the point was DEFINED to have no extent, so it hadn't, the points made the line, and the line had extent, and so Q.E.D. But we have seen from our discussion of n_0 that that is impossible. A point MUST have extent. The quality, extent, cannot be attributed to the whole unless it is attributed to the parts.

When we see the impossibility involved in the term, no extent whatever, it is at once apparent that the concept of frames applies to

space, time, or any everywhere dense, continuous medium, for any extent in any of these mediums has a zero part, which in turn has a zero part, and so on.

Since a point must have extent what size can we give it? The most simple method is that of analytic geometry, where it now becomes apparent that a point is a volume whose shape is variable but whose mean cross-sectional diameter is $1/n_0$ part of the unit of length. A line is then a tube whose mean diameter is $1/n_0$ of the unit of length. Then there is a one-to-one reciprocal correspondence between points and finite numbers.

But regardless of the size given a point, or how it may vary, if a line intersecting two lines moves along those lines, the points of intersection move with it, so that rather than having a one-to-one reciprocal correspondence of an infinite number of points, there is a correspondence of only two points, moving with the line of intersection.

If we partition the line into fixed points, the points must be either (a), mutually exclusive, or (b), not mutually exclusive.

(a) If they are mutually exclusive they can't be put into one-to-one reciprocal correspondence because the intersecting line will pass through two of them most of the time.

(b) If they are not mutually exclusive they might more exactly be defined as the family of positions a point on a line will occupy as it moves along the line. Then wherever a point is on a line is its position. If it remains fixed it continues to occupy the same position. If it moves it occupies different positions.

The term, different, implies necessarily mutual exclusion of something, which in turn necessitates separation of positions in space, however slight that separation may be. There is no way two positions may be separated without defining some point in some space frame as being in a certain part of one position but not in the same part of the other. Hence (a), mutual exclusion, is the case either way.

Therefore there is no valid way of putting more than two points on two straight lines into one-to-one reciprocal correspondence by means of a third, intersecting straight line.

(2) We are also in a position now to refute the "proof" that there are just as many even integers as there are odd and even. The expression, "just as many," implies necessarily that both classes have the same cardinality, or the same cardinal number. In reality, as we have demonstrated, neither is a cardinal class, hence the phrase, just as many, cannot apply.

In any cardinal set of integers it is evident that if there are n_1 integers there are $n_1/2$, or $(n_1-1)/2$ even integers. The fallacy in the "proof" that there are just as many lies in the assumption that both classes were cardinal classes—that ANY set which has a quantity of elements is a cardinal set. This assumption was possible because of a lack of a precise definition of a number.

(3) Why can't we just let some symbol, say, M , be used as a cardinal number for the class of all finite integers, so that it would be "correct" to say there are M finite integers?

We cannot do so because it would not be consistent with our definition of a cardinal number, and there is no way of redefining the cardinal number to include such a concept as a non-cardinal number. The closest we can come to it is the class symbol, F , where F is the class of all finite numbers. Then letting f_i be any member or element in F , we have

$$F \pm f_i = F$$

$$F f_i = F$$

$$F/f_i = F$$

$$F f_i = F$$

These expressions fulfill the requirements for the cardinal number of F , if there were one, but not the requirements for a number. F is not a quantity, nor can any cardinal number be assigned to it. Before any quantity can be used as a number it must be shown that there is a quantity, $n_1 + 1$, which is not equal to that quantity, n_1 .

(4) THE DIFFERENTIAL:—The concept of the zero frame of numbers is contained implicitly in the differential calculus. Its fundamental approach,

$$\lim_{\Delta x \rightarrow 0} \frac{\Delta y}{\Delta x} = \frac{dy}{dx}$$

$$\Delta x + 0 \Delta x = dx$$

quite obviously shows that, for if there were no zero frame of numbers so that dy and dx are contained in F/n_1 , then dy/dx would really be indeterminate and there would be no calculus.

The expression, $0/0$, is indeterminate only because it is a class relation, not a number relation. In exactly the same way F/F is also indeterminate:

$$\frac{0}{0} = \frac{F/n_1}{F/n_1} = \frac{F}{F}$$

$$\frac{0}{0} = \frac{F/n_1}{F/n_1} = \frac{F}{F}$$

In general, differential analysis concerns the zero frame relations of the variables in any equation. When the interpretation of the equation is in spatial concepts the differential equation

is the relation of zero space frame concepts which are, for the most part, plane trigonometric concepts. A zero arc of a curve of finite radius of curvature is a straight line, which, if taken as the unit of length, has a radius of curvature that is infinite to the zero frame.

Again, in spherical trigonometry every formula may be transformed into a formula in plane trigonometry by letting the radius of the sphere become infinite, or by letting the arcs which form the sides of the spherical triangle be zero frame numbers, or differential variables.

A euclidean plane can be considered in one form as a curved surface whose radius of curvature is infinite, and a differential area of any curved surface has the properties of a plane.

IX

SPACE AND TIME FRAMES

SUPERIMPOSING the frame concept of numbers on space and time leads to some very startling conclusions. There can be no complete lack of interval or extent in either continuum. Thus, an object that is in motion cannot be said to be in one position at some instant, the position and the instant being of no extent or duration whatever, but are in motion in every space and time frame below the one we call finite. Thus, we see that some of the problems that puzzled the ancients, such as the problem of Achilles overtaking the tortoise, are no problems at all, but merely difficulties arising from lack of understanding of what could be meant and what could not possibly be meant by the words, instant, position, etc.

To a being whose thinking and perceptions were in the time frame above our finite one, ten thousand billion centuries would be only a fraction of an instant. If he were watching our universe in some way, all velocities in it would be infinite to him. Suns would come into brilliance and fade out in an instant. Worlds would evolve creatures, generation after generation, intelligent races would develop civilizations, would battle, and finally die out—all in an instant of his time.

To a being whose thinking and perceptions were in a time frame below ours, if he could observe our universe in some way, every object of which we can be aware ourselves would be to him completely at rest. To him and his fellows, as his race observed us, and each suc-

ceeding generation of his race recorded their observations, there would be no movement of any kind. Automobiles, people, elevators between floors with people in them, even light itself would be forever at rest. His race would eventually die out from senescence without any measurable motion of things we know of, because in his frame of time an eternity would be what we know as an instant of time.

There has been speculation about the size of our physical universe. It has been postulated that it might be in a curved space so that instead of straight lines, space has geodesics. If a person travelled along a geodesic he would think it a straight line, yet after he had travelled an infinite distance he would be a finite straight line distance from his starting point. If space had a finite radius of curvature it would be a point in the next higher space frame, and we would have to assert that in the next space frame all space is merely a euclidean point. That is absurd unless some limiting factor other than space concepts is imposed on the whole. Space itself cannot be limited, but the real universe MIGHT be, due to its structure. Hence any assertion about the limits of the physical universe must be assertions about some property of the real universe, not about space.

The space and time frames that are finite to us are just one combination out of all the numberless possible combinations. No law of chance could operate to select these frames in particular, to the exclusion of all others. The secret of the nature of the real universe may lie in the lower frames of space and time, as well as numbers, where it cannot be reached except by logic. If this is the case, it may be that a logical analysis extending into these lower frames can develop deductions concerning our finite frames which are amenable to verification by experiment.

X CONCLUSION

UNDOUBTEDLY there will be readers who have gone this far and still do not have a true conception of an infinite number or a zero number, or a frame, but have merely kept their understanding in the finite frame without realizing it. Some will never be able to do otherwise. The concept of an infinite number is as definite and real as that of any finite number. Yet it is almost beyond man's ability to grasp. There should be many ways to aid the reader in grasping it. For example, it

is asserted loosely that any finite number, f_1 , plus zero is, for all practical purposes still f_1 . In the same way, if n_1 is any infinite number, then n_1 plus any finite number is still, for all practical purposes, still n_1 .

The frame theory depends entirely for its validity on the definitions or concepts of equals, greater than, and a real number given in the first part of this work. To attack this treatise it will be necessary to show that these definitions are inadmissible, but to do that is, I believe, impossible, for, believe me, I have tried. I realize that this work, if or when it is accepted, will shake the foundations of our immense mathematical structure to their roots. The new edifice which will rise out of the old will be on a more common sense basis and more consistent. No longer will it be necessary to introduce a statement with these words, "No matter what common sense may tell you—".

XI PROBLEMS

THE problems presented here are partly a review and partly to suggest lines of study. No answers are given.

- (1) Show that, where f_1 and f_2 are any finite numbers whose difference is a finite number, there are an infinite number of finite numbers between f_1 and f_2 .
- (2) Every finite number is, or may be considered as, the family of all real numbers not included in the next finite numbers above and below it. Show that any finite number is a non-cardinal class of real numbers.
- (3) Show that the statement, "there is an infinite number of numbers between any number and any other, however close," is not true of finite numbers, but IS true of real numbers.
- (4) Show that the variable, as used in mathematics, called a real variable, fulfills our definition of a number.
- (5) What time frame would be necessary to make a velocity that is finite in our time and space frames finite in the space frame, 0^0 ? The tenth space frame above our finite one.
- (6) In what frame is the momentum of an object finite, whose velocity is finite in the seventh space frame above ours and the third time frame above ours, and whose mass is finite in the fourth number frame below our finite one?
- (7) Show that in Cantor's array of decimal numbers by which he "proves" that the class of decimal numbers is non-denumerable, has as

its fallacy the assumption that the array is square because the number of rows and columns are both infinite, and that in reality the class of decimal numbers is denumerable, and the array rectangular. What are the numbers of columns and rows in the array?

(8) This last problem cannot be solved without knowing the true nature of the fundamental structure of the material universe. Problem:—Show, from the nature of the velocity of light that the velocity of gravity is finite in our time and space frames.

DISCUSSIONS



AMAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Bouquets and brickbats will have an equal chance. Inter-reader correspondence and controversy will be encouraged through this department. Get in with the gang and have your say.

ABOUT BROWN LANDONE

Sirs:

A friend has just sent me a page of your magazine entitled "Discussions" in which you comment regarding Brown Landone.

It is very easily noted from your statements that you did not know of Brown Landone.

I have been associated with Brown Landone since he came to Florida many years ago—in fact I came from the north with him to Florida. I was his personal secretary during his life-time and know of each and every transaction he carried on.

Brown Landone was 98 years of age at the time of his death. He was very active and mentally alert at the time of his passing. He made no claims on being able to prolong his life or that of any others; he never once made a statement as to his age being more than 100, much less 125.

There is no secret in maintaining youthfulness and life if one lives as he should. We have plenty of evidence of many people living much older than Brown Landone. In St. Petersburg, Florida, there is a Three-Quarter Century Club in which a person must be 75 years of age or older in order to belong to this club.

Each year its members put on diamond-ball games and boxing matches—some members being 105 years of age and participating in these events.

Then as to your statements regarding Brown Landone developing a new plant in Florida and advising his friends to buy land in Florida (muck land as you put it) is entirely false.

I will gladly pay to any and all persons proving to me that Brown Landone ever once owned a foot of land in Florida, or even better, anyone who can prove to me that he advised them to purchase land in Florida for growing ramie, the sum of \$1,000.

I will gladly pay \$1,000 to any person proving that Brown Landone ever made one penny from his \$30,000 spent in developing the new fiber-

plant "ramie." He did not even recover his \$30,000 investment much less any profit.

I can also state that Brown Landone never once advised any person to buy land or move to Florida for any purpose whatsoever. Not because he was sold on Florida (it is the greatest state in the world) but because he never advised anyone other than spiritually.

He did, however, issue a Bulletin on this ramie fiber as well as did the Federal Reserve Bank of Atlanta, Ga., and our own United States Government—with the statement in it that the plant required a sub-tropical climate, and hence Florida was most fitted for growing this plant.

Brown Landone worked on the development of this plant because our government requested it—our silk supply was depleted; and we needed this fiber for use in parachutes and naval packing for shafts.

How many of our citizens in the United States would spend \$10,000 of their own money to develop something for our government without first signing a contract for our government to pay for it?

Brown Landone was never paid one cent by anyone to do this development work and he gave freely of all his findings to others. It is now so developed that all our farmers of Florida can grow this plant at a very profitable margin and all because of Brown Landone's initial work.

In fairness to Brown Landone, I ask you to print this letter in whole in your magazine and counteract your mistaken statements.

Clark Maxwell,
1331 College Point,
Winter Park, Florida

We are glad to get this authoritative letter from Mr. Brown Landone's personal secretary. It is indeed regrettable that many of those persons to whom Mr. Landone gave spiritual advice are to—
(Continued on page 170)

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DISCUSSIONS

AMAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Discards and initials will have an equal chance. Letter-reader correspondence and commentary will be conducted through this department. Use it with the same and take part.



NOTE TO THE READER: THE DISCUSSIONS ARE NOT TO BE USED AS A MEANS OF ATTACKING ANY PERSON OR ANY GROUP.

(Continued from page 168)

day using his name to further their own "occult societies" as money-making schemes by making the ridiculous claims for him that we referred to in these pages. It would seem from your letter that Mr. Landone was a very practical (although idealistic) man, and not the "mystic" our informants painted him to be. We want our readers to know the truth about any person who is linked with the "Shaver Mystery." And many of our readers were informed that Landone "knew all about the caves, and many secrets from them including longevity."

As for there being no secret in maintaining youthfulness and life, we are inclined to disagree with you. We think the Club you mention is composed of members who were "lucky" enough to live that long, and that it wasn't accomplished through any deliberate attempt. As for "living as we should," there ought to be more said about that, if it is known! If Landone wrote any articles on that subject, we'll gladly reprint them in our magazine. It would seem that Mr. Landone did have a lot on the ball if he had a mode of living that was responsible for his 98 years and his good health.

As for that \$1,000 offer, we'll take you up on that. We quote from page 3, Vol. 19, No. 5 of the "Sunna Dagar Message" from the study of Brown Landone, Col. 3, paragraph 2 and 3:

"Two weeks ago we motored BL up to look at 20 additional acres which had just been plowed and cultivated, ready for the planting of more ramie.

"BL had already known of this land; in fact, he had advised our leasing it. It is marvelous land, pure muck, from 6 to 20 feet deep. The richest perhaps in all Florida, or in the United States."

Advised leasing it, Mr. Maxwell! And pure MUCK, Mr. Maxwell (as you put it)! Whom do you think you are kidding, Mr. Maxwell? As for the \$1,000, we will gladly donate it to the foundation for more helpful work dedicated to humanity's betterment (which makes it \$31,000).

For our reader's information, the Landone Foundation is a charitable non-profit corporation founded by Brown Landone to carry on the distribution and publishing of his works.—Ed.

MORE ABOUT MR. JOHNS' CAVE

Sirs:

This concerns Shaver's caves. I wrote to Mr. Johns who had a letter in AMAZING STORIES some time back concerning a cave location in Mendocino County or some other place. He answered, telling me quite a bit, and that on his last trip there with

two friends, they were all blanked out for two hours and didn't know where they went or what they did or why. Also they saw wires (as nearly as we can decipher the word—Ed.) which vanished when they neared them. One of them got a photo of a shadowy being but was told not to go there again.

John Price, Jr., S2/c
USS Hart, DD 594
USNRB
San Diego 36, Calif.

Yes, Mr. Johns wrote us, and he asked us to be patient, that he'd get us the evidence if it is humanly possible. It also seems that he must go about it his own way (to which Shaver agrees) and we're perfectly willing to bear with him. Apparently it is dangerous. Perhaps Mr. Johns is hoarding us. If he is, the record will show it eventually. But, as can be seen, we are using every effort to check on his caves that is available to us—and apparently many of our readers have called on him, and some of them with a skepticism that seems to have angered him. However, in his last letter to us, he reaffirmed his claims, said he'd do his best to prove them to us, and we stand on the man's word. Personally, we've got a hunch that our statement of a few issues back regarding Mr. Johns may have to be retracted. Go to it, Mr. Johns! We're so interested we're blowing steam!—Ed.

HUR?

Sirs:

ANSROCAN

Madison, N. J.
(postmark)

We publish this letter as a sample of some of the tricks (which go much farther than this and much more intelligently conceived!) which a group of readers composing a "fan group" numbering some 170 fans continually deluge us for a joke. For instance, we get long, carefully-thought-out letter detailing experiences in caves, giving locations, (vaguely) and signed in blood, which serve to confuse the issue, and might lead us off into fruitless endeavors to determine what evidence there might be concerning the caves. Much worse than this, (but more humorous from our point of view!) was a series of telegrams addressed to the publisher requesting that the editors of AMAZING STORIES be fired because they were ruining the magazine, these telegrams signed by the writers, also of the fan group. Our publishers were very much put out to discover that the magazines had been ruined to the extent of DOUBLING circulation.

For the benefit of these idiots, we will begin to publish in our next issue, locations of caves that have been reported to us, and these childish pranks may amuse themselves exploring them. Maybe they'll meet a dero (we hope). And by the way, "Madison, N. J." what does "Ansrocane"

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ASK FOR

MANMOTH MYSTERY

mean? This magazine isn't averse to a little humor, and maybe you might make a joke, son.—Ed.

A DIAGRAM

Sirs:

This letter is for your readers' page if you wish it, and for you at any rate.

I have been reading avidly the articles and stories concerning the "Shaver Mystery," and to say the least, I am amazed by the number of things I have heretofore been puzzled about which are brought forth by Mr. Shaver in his stories and by various other writers in their articles. Some of your readers have also had, according to their accounts, experiences similar to my own. Now wait a moment. I can hear you saying, "Oh my God, another heretic!" Hear me out, Ed.

It would take too much time to tell of my odd and various "experiences" and I do not put faith in them too much. So to the main question now.

I have in mind a tale (I say "tale" because it is hardly credible to me, but I am a factual and thorough person, I like proof.) which seems to have a bearing, possibly a direct one, on the "Shaver Mystery." It is a story of age old evil—a moving epic of the past, the present, and possibly, I'm not quite sure, of the future. The time of these happenings is indefinite. It seems to be a great beginning from nothingness of a great race of people and of their stormy life. I do not claim that this story is a racial memory, a thought record, or any of the other explanations for such stories, for I do not know. Think what you will. I have a theory, and I may have the means by which to prove said theory. If so, the results will be sent to you.

Enclosed in this envelope are some diagrams which have been in my mind for some time. If you will notice the date on this missive you will see that I wrote it last Friday. The postmark will be Monday because I am taking the entire weekend to compile and correlate one of the diagrams which is in my mind. This I shall send to you.

Remember, I do not claim that these impressions of mine come from some supernatural or mysterious source, because I do not know from whence they come. They are merely in my mind.

Don Rowland,
227 Oscola Ave.,
Lake Wales, Fla.

We have Mr. Rowland's diagram, and although there isn't time to reproduce it for this issue, we will have it ready for the next. As yet we have no idea of what it is, but perhaps our scientific-minded readers can give us a clue, or perhaps may even build the gadget and tell us what it does!

Mr. Rowland, we are definitely interested in your experiences, and we would be pleased to consider your story, no matter where it comes from. We are also interested in your theory, and we'd certainly be interested in any proof. Shoot the works.—Ed.

A COMMENT ON THE WHOLE ISSUE

Sirs:

I am not going to claim that I'm a potential Lemurian, but I can say that I enjoy AMAZING STORIES very much, not only because of your consistently good stories, but also because of the current series by Mr. Shaver. I enjoy these stories as pseudo-truth as well as fiction. However, I fail to see the necessity of "dressing up" these stories. I think we could take them straight and enjoy them a lot better. "Cult Of The Witch Queen" was a whoppin' good tale and I liked it a lot. Next month I hope to see one as readable.

"The Mutants" and "Chrysalis" were very entertaining and deserve second place. Stories like these are exceptional and ones that any magazine could well be proud of. In these times it's hard to find such really good stories, especially in one place. "Heart Of Light," "Scar Tissue" and "The Man Next Door" are in keeping with your consistently good magazine and, in fact, there is only one story that isn't so hot and could safely be classed as filler. Your magazine gets better every issue. Keep up the good work.

Joe Hayhurst,
Belton, Texas

But we aren't "dressing up" the Shaver stories. The sensationalism attached to them is entirely unplanned, which is the excitable thing about them. Our readers have provided the "dressing up" ever since the first one. We are glad to see you like our other stories. These days we sigh with relief when we get a letter that mentions them! The Shaver business has captured the public fancy almost to the exclusion of all else, and to tell the truth, we try desperately to "dress up" the rest of the stories, and next month's "Green Man" will be an evidence of our efforts to get something to match Shaver. We had to go to the leading writer in America today (now that Burroughs has stopped writing) to get it, but we got it. And when you see the cover, the presentation and the quality of this story, you'll agree that we've put it over with everything we've got. By the way, we have a very strong hunch that the Green Man will be one of the big movies you'll be seeing one of these days! Don't say we didn't predict it!—Ed.

A SOLDIER LIFTS HIS SIGHTS

Sirs:

I have just returned from a journey into the "Masked World," via the May issue of AMAZING STORIES. In spite of Mr. Shaver's ingenuity, I was unable to maintain interest beyond page 23. However, there will be, without doubt, some readers who will write to congratulate you on the presentation of such a masterpiece of scientific revelation. Okay, I won't quarrel with their taste in reading.

What I am worried about is that there are a few, and perhaps quite a large number of readers, who may accept this Shaver Mystery as being founded on fact, even as Orson Welles put across

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his invasion from Mars, via the radio some years ago. It is, of course, impossible for the reader to sift out in your "Discussions" and "reader comment" features, which are actually letters from readers and which are to be credited to an **AMAZING STORIES** staff writer, whipped up to keep alive the interest in your fictional theories. However, if the letters are generally the work of readers, it is distressing to see the reaction you have caused in their muddled brains. I refer to letters from people who have "seen" the exhaust trails of rocket ships or "felt" the influence of radiations from underground source.

I am quite sure that science fiction stories as cleverly written as some of yours may have a harmful effect on readers of a certain intellectual level. I am equally sure that you will not publish this letter, or more especially this paragraph, in which I will point out a few obvious truths which would deflate the Shaver Mystery, and the visitations of space ships. The last shall be first, to wit: I should like to point out to the alleged witnesses of exhaust trails of space ships that a science capable of producing them would not be satisfied with fuel combustion so incomplete as to leave a visible trail. Even our infant science of jet propulsion is past that stage. As to Mr. Shaver's underground society, he has categorically denied its existence by stating that anyone who entered the caverns to learn about it would never return alive. Hence Mr. Shaver's ghost is doing the writing. And his ghost slipped up a bit in stating that all the underworld's metropolitan centers were located beneath the big cities of the earth. What an amazing coincidence that the recent "surface" civilization should build their cities directly above the centers of an ancient and unknown underworld. Dear me! No wonder you call them "amazing" stories.

We get pretty hard up for reading over here, and occasionally have little choice as to reading matter, hence your publication. But I think you should try to keep it free from such pronounced moron-bait as occasionally crops up in it. Our insane-asylums are full enough already.

Ellis L. Lyon,

1st Lt. CE,

Base M Branch,

Claim Service AFWESPAC

Camp Spencer, APO 70

Isn't it rather illogical to say that **ALL** stories of this type are **HOAXES** just because Orson Welles once **HOAXED** the nation with a science fiction story? You offer Orson Welles as **PROOF** that science fiction stories presented as we present Shaver must be hoaxes. Why do you worry that readers will accept it as fact? Will it cause them to leave New Jersey, as some tried to do with Welles' Martian invasion? As a matter of fact, the "panic" over Welles' story was the **REAL** fiction in the case. The "panic" was a newspaper stunt, enlarged over a few people who started down the street on coaster wagons. Perhaps 50 people in

New Jersey "panicked." Yell "Boo" anywhere, and 50 people will panic. That Orson Welles "scare" is just newspaper talk.

As for "staff-written" letters, if you can afford it when you return to the States, we'll give you all the addresses and you can call on each of the many thousands of letter writers personally and force a confession out of them that they are really only members of our staff. Also, we'll give anybody who can prove any of the letters are staff-written a job on our staff (since it seems the jads to offer rewards for proofs). Or, if you care to do it the simple way, want to read the letters yourself, and then decide? You're welcome to come and look them over, and we'll also provide dinner as part of the invitation.

We think you'll find that jet ships do leave a vapor trail. We think you'll find that science will tell you perfect combustion is impossible, and anything burned will leave vapor. Just because you imagine what a "science" will do doesn't prove anything. At least, if you're going to challenge other peoples' proof, be a little more factual than they are.

Mr. Shaver never said the underground cities were only under surface cities. He did say that the ENTIRE earth is a mass of caverns under both continents and oceans, and naturally any surface city would be located over them. Today the inhabitants congregate under surface cities, and for the reason, you ought to have read the "Masked World" further than page 23. As for space ships, you might say Shaver did not originate that, nor our readers. Ever read the books of Charles Fort? He's the culprit, if anyone is. Personally, we believe these ships do visit the earth. You, or any observer, would be inclined to call it something else if you did see one.—Ed.

CONCERNING "INFLUENCES"

Sirs:

In looking through the New Bedford, Mass. Standard-Times for Friday, May 24, I ran across an editorial which I have copied verbatim and enclose herewith. Perhaps you and Mr. Shaver will be interested; apparently this is one of the instances you speak of at length in recent issues of AMAZING STORIES. The clipping:

Persons who have imagined that their mental and bodily ills may be due to the electrical impulses of which the air is full can rest assured that as far as radar is concerned their fears are groundless.

During the war there were rumors that radar waves caused baldness and sterility. Among complaints received by the Army was one from a Missourian who said that an unknown radar operator woke him up at night and kept him from going to sleep again, and that "radar is projecting scary dreams on his wife," making both her and him miserable.

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electromagnetic waves did them no harm, and that "there is no reason to suppose that human beings would be affected differently." That ought to settle the matter, and to convince even the Missouri couple that while there are many things in the world to keep them awake and cause bad dreams, radar is not one of them.

Allen G. Keniston,
Vineyard Haven, Mass.

We could show you hundreds of clippings of this nature, where people insisted (as in Shaver's "Masked World" clipping) they were being tormented by rays, or the FBI with new gadgets, or the Army with radar, or by GE with new spark plugs. Naturally they do not know where the "torment" comes from, and give it any reason that seems possible. The FACT that remains is that they are bothered by something that isn't just wishy-washy. Incidentally, for those readers who doubted the clipping of the woman who sued the FBI in "The Masked World," we have it in our files, if you'd like to see it.

We are amused by the AAF surgeons who "proved" to the Missouri couple that radar wasn't causing their trouble, by exposing guinea pigs to electro-magnetic waves. We can just see the guinea pigs shaking their heads and saying "No, doc. Don't see no dreams nohow . . . slept like a log myself. What's up, doc?" So many of our scientists prove things by asking guinea pigs about it. Now how could they tell if the guinea pig dreamed or not? Do guinea pigs ever dream?

All we can say about rays that torture people, is ask the man who owns one! Seems to us, that just like the guinea pig, you couldn't tell unless you owned one! Wouldn't wish it on a dog—or a guinea pig!—Ed.

VERY INTERESTING LETTER

Sirs:

I can assure you that Edward John is not fibbing. I have gone over the whole matter thoroughly with him and found it true. I was able to clear up much of the matter for him. We even have photos of the things in that section. The cave is there. Although even if you will have difficulties in getting there, you won't find any dero in there.

I and Edward John asked you for the address of V. G. so we could locate him. We tried, but were unsuccessful. We should like to find him.

He is a story that will interest Whitehead. About 25 years ago, in a small town in Northern France, I went into a pub one evening. There was a floozy who was quite extraordinary. She was petite, absolutely charming (though stupid), quite the grande dame in her allures. The remarkable things about her were many. First her hair, an absolute duplicate of the wig worn before the French Revolution. I asked her how she was able to dye and marcel her hair in such a wonderful manner. She told me indignantly that

it had been that way always. Which was confirmed by others who had known her from childhood. There were the "beauty plasters" she wore on her cheeks and chin. Little squares, diamonds and a heart. The only thing the matter with them was that they were natural, just wens. Then there was the color of her skin. I offered her a few francs if she would let me wash the powder off. I tried, but it didn't come off. Natural too. But the payoff was a fine mark going straight around her neck. Just a fine line of brown. Just where the guillotine would cut a neck, and just as straight. In all her manners she was the grande dame of Versailles, just as charming, and just the same harlot at heart.

Frederick G. Hehr,
900 San Vincente Blvd.,
Santa Monica, Calif.

Well, how about some of those pictures? Send them to us. We want to prove Mr. John's cave. As for VG's address, we will send it to you. We now have his permission. In fact, it would be printed here, but by some crazy freak, the letter has vanished off our desk (into the wastebasket no doubt, so don't spring the dere on us!) and we are writing furiously to make a deadline this afternoon. **IT WILL BE IN THE NEXT ISSUE**, the rest of you readers. In fact, from now on, there will be no letters published that do not have full name and address. *Praxkixers* beware—because you'll **CERTAINLY** have callers, checking up on you! And some of them have big fists! As to your mysterious "Miss Guilloine," the matter sounds fascinating to us, Mr. Hehr. At any rate, it is as interesting as any of our fiction!—Ed.

WOW! DON'T STOP HERE!

Sirs:

Ever since Richard Shaver's stories of his recollections (?) first appeared, I haven't failed to read said stories. It seems incredible that any human alive today could remember so many things and still make so many mistakes or tell so many lies in his very frightening description of the underworld, the caves. I am not prepared to say that all parts of that unknown world are idealistically beautiful both in living and in its people, but I do know for a fact that I have never encountered anything but the kindest consideration from its inhabitants. I have never attempted to tell my story, because I would be considered insane and locked up. But I know and one other person knows. That is, she knows that I disappeared strangely and appeared just as strangely after three years. She has an exquisite little gold box adorned with gems which I sold her for enough to bring me to the United States. (I was born here but had lived in Mexico City since I was ten years old.) It was a gift from the people of the caverns and the sum she gave me was enough to keep me for months until I could find work and trace my kinfolk. That was the main reason why I came back to the upper world, and I want

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to go back to those whom I learned to love. I shall go back when I am sixty years of age (three years from now). At that time I shall go to the Ixtil cave where the stone of life is kept. There I shall lie down and when I have completed 16 hours before it I shall arise and be a young woman of 20. How do I know this? Because I have seen it happen to many of those same underworld denizens when they reached the age of 60.

This much I can tell you. They are in face and form like earth peoples, but much larger and more beautiful. I have never seen an old, ugly or deformed person among them, and I spent three years there. I traveled many thousands of miles. Now understand me, I do not know and cannot speak of those who live in Europe's underworld. I only speak of those beneath the surface of these United States, Mexico, and the Latin American countries. I am grateful to them for they took me, a broken, sick, sinful, dope-ridden and hopeless woman and placed me under rays and brought me back to health. When I felt that I must go back, they agreed and I was brought to the surface and the little box placed in my hands as my mentor put it, "to buy your food until you find ways of making a living."

I could tell you many more things, but if I did write the story, I wouldn't be as lucky as Shaver. No, I'd be called crazy, and my manuscript would be consigned to the wastebasket. So I content myself with this letter advising Shaver to revise his opinion of the "Nephs." Ask him if his memory stretches back to the arrival of man on this planet. If he knows that all mankind sprang from the 100 who landed on this planet. I know all this, how and where we came from. I haven't the memory he claims to have, but it has been shown to me on their eternal records. Records that were made when the first spaceship was being built. Through these magic pictures I lived and journeyed through space.

Mrs. D. C. Rogers,
117 Devine St.,
San Antonio 3, Texas

Mrs. Rogers, please be assured that no one in this office will consider you crazy, nor will they toss anything you write in the wastebasket. It will at least be READ. Mr. Shaver was not lucky—he was read, and you can see for yourself what happened. We want proof, and we think the world needs proof. Just as you suggested in a deleted portion of your letter, we may need to go to the caves for refuge when the atom bombs begin to fall, and if you can help, your responsibility is huge indeed. We'd like to know more about that jeweled box. We would like to SEE it. And we want you to tell more!—Ed.

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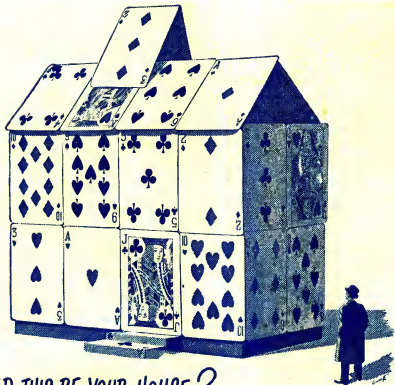
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